

# Agha Ali Raza

Assistant Professor of Computer Science  
Director CSaLT (The Center for Speech and Language Technologies)  
Syed Babar Ali School of Science and Engineering, LUMS, Pakistan

SBASSE 9-G49A  
Department of Computer Science  
DHA Phase 5, Khayaban e Jinnah, Lahore, Punjab 54792

Tel: +92 42 3560 8565  
Email: [agha.ali.raza@lums.edu.pk](mailto:agha.ali.raza@lums.edu.pk)  
Web: <http://aghaaliraza.com>

## Research Interests

---

My research focuses on Speech & Natural Language Processing, Speech-based Human-Computer Interfaces, Machine Learning, and Information & Communication Technologies for Development (ICT4D). My research enables information access and connectivity for under-connected and under-served populations (low-literate, low-income, tech naïve, visually impaired, linguistically & socially marginalized, geographically remote communities, and oral cultures) throughout the developing world. The goal of my work is to build a more accessible, inclusive, equitable, fair, and safe digital world where everyone has the opportunity to thrive.

## Education

---

**Ph.D. in Computer Science (Language Technologies)** **May 2015**

[Carnegie Mellon University](#), Pittsburgh, PA, USA

Thesis: *Viral Entertainment as a Vehicle for Disseminating Core Development Services*

Advisor: Roni Rosenfeld (Professor and Head, Machine Learning Department, CMU)

Committee: Jaime Carbonell (Professor and Director, Language Technologies Institute, CMU), Bill Thies (Microsoft Research New England, US), Bhiksha Raj (Professor, Language Technologies Institute, CMU), Umar Saif (Ex-chairman of Punjab IT Board and Ex-Vice-Chancellor of Information Technology University)

**Master of Science in Computer Science (MS CS)** **July 2009**

[National University of Computer & Emerging Sciences-FAST](#), Lahore, Pakistan

Thesis: *Design and Development of an Automatic Speech Recognition System for Urdu*

Advisors: Sarmad Hussain (ICANN) and Awais Athar (European Bioinformatics Institute)

**Bachelor of Science in Computer Science (BS CS)** **July 2005**

[National University of Computer & Emerging Sciences-FAST](#), Lahore, Pakistan

Thesis: *Acoustic Direction of Arrival estimation for underground events*

## Professional Experience

---

- Lahore University of Management Sciences (LUMS), Lahore, Pakistan** *Jan 2020 – now*
  - Assistant Professor of Computer Science, School of Science and Engineering (SBASSE)
  - Founding Director of CSaLT (The Center for Speech and Language Technologies)
  - MHRC (Mahbub ul Haq Research Center) Fellow
- Information Technology University, Punjab, Pakistan** *Jun 2015 – Dec 2019*

Assistant Professor, Computer Science Department
- FAST-NU (National University of Computer & Emerging Sciences) Lahore, Pakistan** *Jan 2005 – Jul 2010*

Lecturer, Computer Science permanent faculty

## Featured Talks and Guest Lectures

---

- [TEDx talk](#) at Aitchison College on “Giving Back”.
- Invited talk at [Microsoft Research India \(MSRI\)](#) at Lab Sabha.
- Independence Day talk at [Meta \(Facebook\)](#).
- Guest lecture at Cornell [University, Ithaca, NY](#) in the class of *Computing and Global Development*.

- Guest lecture on “Reaching Underserved Communities” at the [International Summer School on ICT for Sustainability, Lorentz Center, Leiden, the Netherlands](#).
- Guest lecture at the [University of Maryland, College Park](#) in the class *Global Health Messages: Understanding Exposure and Impact*.
- Invited panel discussion at [Tufts University, USA](#) in the class on “Computing for Developing Regions”.
- Guest Lecture in the *ICTD* class at the [University of California, Berkeley](#).
- Guest Lecture in the *HCI* class at the [Birla Institute of Technology and Science, Pilani \(BITS Pilani\)](#), Hyderabad Campus.
- Expert Interview on *Digital Literacy* at [Google Inc.](#)
- Invited talk on Viral Spread of COVID-19 Information using an IVR Social Platform, at [Google, Mountain View, CA, USA](#).
- Invited panel discussion in the class of Human-Computer Interaction (HCI) at the [University of Michigan, Ann Arbor, USA](#).
- Invited talk at the School of Mathematical and Computer Sciences of [Heriot Watt University, Edinburgh, Scotland, UK](#).
- Invited talk at the Computer Science Department of [New York University, Abu Dhabi \(NYU-AD\)](#).
- Invited seminar lecture at the Computer Science Department of [Carnegie Mellon University, Qatar \(CMU-Q\)](#).
- Invited talk at UNESCO Chair in Technologies for Development: Voices of the Global South, [Tech4Dev at EPFL, Switzerland](#).
- Panel discussion on Urdu Language and IT, at [Faiz International Festival, Lahore](#).
- Invited talk at [Google and Youtube, Mountain View, CA, USA](#) on *Virality of mobile-based, speech services and dissemination of development-related information to low-literate masses*.

*(A detailed chronological list of all talks and guest lectures is present later in the CV)*

## Research Funding and Grants

---

- [1]. [Meta 2022 Foundational Integrity & Social Impact Research, USD 50,000](#), Agha Ali Raza (Co-PI), Ayesha Ali (PI, Lahore University of Management Sciences, Pakistan), Ihsan Ayyub Qazi (Co-PI, Lahore University of Management Sciences, Pakistan), Gamifying Media Literacy Interventions for Low Digital Literacy Populations, Jan 2022 – Jan 2023.
- [2]. [Gates Foundation, USD 272,000](#), Agha Ali Raza (Pakistan-side PI), Mustafa Naseem (PI, University of Michigan, Ann Arbor), Arman Rezaee (Co-PI, University of California, Davis) Leveraging Polio Helpline for Creating RI+MNCH awareness, Dec 2021 - Sep 2022.
- [3]. [Facebook Research, USD 90,000](#), Agha Ali Raza (Co-PI), Ayesha Ali (PI, Lahore University of Management Sciences, Pakistan), Ihsan Ayyub Qazi (Co-PI, Lahore University of Management Sciences, Pakistan), Countering deep fake misinformation among low digital-literacy populations, Sep 2020 – Sep 2021.
- [4]. [National Institutes of Health \(NIH\), USD 250,000](#), Agha Ali Raza (Pakistan-side PI), Arman Rezaee (PI, University of California, Davis), Mustafa Naseem (Co-PI, University of Michigan, Ann Arbor), Impact evaluation of Super Abbu: A speech-based MNCH platform in Pakistan, Sep 2018 – Dec 2022.
- [5]. [National Academies of Sciences, Engineering, Medicine, Keck Futures Initiative \(NAKFI\), USD 500,000](#), Agha Ali Raza (Pakistan-side PI), Kentaro Tayoma (PI, University of Michigan, Ann Arbor), Melissa Densmore (Co-PI, University of Cape Town), Mustafa Naseem (Co-PI, University of Michigan, Ann Arbor), Maryam Mustafa (Co-PI, ITU), Digital Street Theater for Global Maternal and Child Health Education, Oct 2018 – Oct 2021.
- [6]. [National Center in Big Data and Cloud Computing, Higher Education Commission of Pakistan, PKR 82,000,000](#), Agha Ali Raza (LUMS PI), Faisal Kamiran (PI, ITU), Saeed Ul Hassan (Co-PI, ITU), Mudassir Shabbir (Co-PI, ITU), Speech Forensics, 2018 – 2023.
- [7]. [National Research Program for Universities \(NRPU\) - Higher Education Commission of Pakistan, PKR 4,500,000](#), Agha Ali Raza (PI), Saeed Ul Hassan (Co-PI, ITU), An AI-based automatic Urdu plagiarism detection tool for academia using deep learning and big data, 2019 – 22.
- [8]. [Google Inc., USD 20,000](#), Agha Ali Raza (Pakistan-side PI), Nithya Sambasivan (PI, Google), Nova Ahmad (Co-PI, North South University), Technology and Gender Disparity, Aug 01, 2017 – Oct 15, 2017.
- [9]. [Innovation Fund, UNICEF, USD 100,000](#), Agha Ali Raza (PI), Rah e Maa: IVR services to disseminate birth preparedness awareness to expecting fathers, Nov 11, 2016 – Nov 10, 2017.

- [10]. [Deutsche Gesellschaft für Internationale Zusammenarbeit \(GIZ\), 1 Million Euros](#), Agha Ali Raza (Technical Lead), Roni Rosenfeld (PI, CMU), Umar Saif (Co-PI, ITU), Hello Rozgar: Improving Access To Skills Training And Employment Opportunities For Marginalized People, Jan 01, 2014 – Dec 31, 2015.

### Within LUMS

- [1]. [Faculty Initiative Fund \(FIF\), LUMS, PKR 1,000,000](#), Agha Ali Raza (PI), Promotion of Urdu Language using an Interactive Urdu Audiobook Reader, Jan 2023 – Dec 2023.
- [2]. [Faculty Initiative Fund \(FIF\), LUMS, PKR 1,000,000](#), Agha Ali Raza (PI), Ayesha Ali (Co-PI – LUMS), Optimizing the Spread of Information on Social Platforms: A COVID-19 Field Experiment, Nov 2020 – Oct 2021.
- [3]. [Faculty Startup Grant \(STG\), LUMS, PKR 3,000,000](#), Agha Ali Raza.

### Under Review

- [1]. [IGNITE National Technology Fund](#), Agha Ali Raza (Co-PI), Dr. Maryam Bashir (PI, FAST NU, Lahore), ICT Enabled Agriculture: Interactive Call System for farmers.
- [2]. [The Mercury Project](#), Agha Ali Raza (Pakistan-side PI), Arman Rezaee (PI, University of California, Davis), Sarojini Hirshleifer (Co-PI, University of California, Riverside), Mustafa Naseem (Co-PI, University of Michigan, Ann Arbor), Sacha St-Onge Ahmad (Co-PI, University of Maryland, College Park), Using incentives to measure the value of social media influence on vaccination: A randomized experiment in Pakistan

## Refereed Publications

### Peer-reviewed Conference Papers, Journal Papers, and Notes

Note: I have marked my students in the publications below (<sup>G</sup> Graduate student, <sup>RA</sup> Research Assistant). The CS department at LUMS follows the Australian CORE rankings of publication venues. I have indicated these as well as the impact factors where available.

- [1]. **Conference:** Muhammad Tahir Munir, Muhammad Mustansar Saeed, Mahad Ali, Zafar Ayyub Qazi, Ihsan Ayyub Qazi, and **Agha Ali Raza**, *Learning Fast and Slow: Towards Inclusive Federated Learning*. In the Proceedings of [ECML PKDD 2023](#), Sep 18 – 22, 2023, Turin, Italy. (Core: A)
- [2]. **Conference:** Abdul Hameed Azeemi<sup>G</sup>, Ihsan Ayyub Qazi, and **Agha Ali Raza**, *Self-Supervised Dataset Pruning for Efficient Training in Audio Anti-spoofing*. In the Proceedings of [INTERSPEECH 2023](#), Aug 20 - Aug 24, 2023, Dublin, Ireland. (Core: A)
- [3]. **Journal:** Iqbal, Hafiz Rizwan Iqbal<sup>G</sup>, Rashad Maqsood, **Agha Ali Raza**, Saeed-Ul Hassan (2023), *Urdu Paraphrase Detection: A Novel DNN-based Implementation using a Semi-Automatically Generated Corpus*. [The Journal of Natural Language Engineering \(NLE\)](#). (IF: 1.065)
- [4]. **Journal:** Ayesha Ali, **Agha Ali Raza**, Ihsan Ayyub Qazi (2023), *Validated Digital Literacy Measures for Populations with Low Levels of Internet Experiences*. [Development Engineering – The Journal of Engineering in Economic Development](#): p. 100107, ISSN: 2352-7285. (Impact Score: 2.88) ([link](#))
- [5]. **Book Chapter:** Aditya Vashistha and **Agha Ali Raza** (2023). Voice Interfaces for Underserved Communities. In: Madon, T., Gadgil, A.J., Anderson, R., Casaburi, L., Lee, K., Rezaee, A. (eds) [Introduction to Development Engineering](#). Springer, Cham. [https://doi.org/10.1007/978-3-030-86065-3\\_22](https://doi.org/10.1007/978-3-030-86065-3_22) ([link](#))
- [6]. **Conference:** Abdul Hameed Azeemi<sup>G</sup>, Ihsan Ayyub Qazi, and **Agha Ali Raza**, *Dataset Pruning for Resource-constrained Spoofed Audio Detection*. In the Proceedings of [INTERSPEECH 2022](#), Sep 18 - Sep 22, 2022, Incheon, Korea. (Core: A) ([link](#))
- [7]. **Journal:** Nimra Zaheer<sup>G</sup>, Obaid Ullah Ahmad, Mudassir Shabbir, and **Agha Ali Raza**, *Speech Emotion Recognition for the Urdu Language*. [Language Resources and Evaluation \(LRE\)](#), 2022. (IF: 1.358) ([link](#))
- [8]. **Conference:** **Agha Ali Raza**, Mustafa Naseem, Namoos Hayat Qasmi, Shan Randhawa, Fizzah Malik, Behzad Taimur, Sacha St-Onge Ahmad, Sarojini Hirshleifer, Arman Rezaee, and Aditya Vashistha, *Fostering Engagement of Underserved Communities with Credible Health Information on Social Media*. In Web4Good special track at [TheWebConf 2022 \(WWW'22\)](#), April 25 - 29, 2022, Lyon, France. (Core: A\*) ([link](#))

- [9]. **Conference:** Hira Dhamyal<sup>RA</sup>, Ayesha Ali, Ihsan Ayyub Qazi, and **Agha Ali Raza**, *Using Self Attention DNNs to Discover Phonemic Features for Audio Deep Fake Detection*, *ASRU 2021* - IEEE Automatic Speech Recognition and Understanding Workshop, Dec 13 - 17, 2021, Cartagena, Colombia. ([link](#))
- [10]. **Journal:** Abinta Mehmood Mir<sup>RA</sup>, Ali Hassan, Asma Khalid, Zohair Raza Hassan, Faisal Kamiran, **Agha Ali Raza**, Saeed-Ul Hassan, Mudassir Shabbir, *Data driven smart policing: A novel road distance-based k-median model for optimal substation placement*, *Computers in Human Behavior*, Volume 127, 2022, 107014, ISSN 0747-5632, <https://doi.org/10.1016/j.chb.2021.107014>. (IF: 6.829) ([link](#))
- [11]. **Conference:** Hira Dhamyal<sup>RA</sup>, Ayesha Ali, Ihsan Ayyub Qazi, **Agha Ali Raza**, *Fake Audio Detection in Resource-constrained Settings using Microfeatures*. In the Proceedings of *INTERSPEECH 2021*, Aug 30 - Sep 03, 2021, Brno, Czechia. (Core: A) ([link](#))
- [12]. **Conference:** Shan M. Randhawa<sup>RA</sup>, Tallal Ahmad, Jay Chen, and **Agha Ali Raza**, *Karamad: A Voice-based Crowdsourcing Platform for Underserved Populations*. In CHI Conference on Human Factors in Computing Systems (*CHI 2021*), May 8-13, 2021, Yokohama, Japan. ACM, New York, NY, USA, 15 pages. <https://doi.org/10.1145/3411764.3445417>. (Core: A\*) ([link](#))
- [13]. **Journal:** Muhammad Qasim<sup>RA</sup>, Haris Bin Zia, Awais Athar, Tania Habib, and **Agha Ali Raza**. *Personalized weather information for low-literate farmers using multimodal dialog systems*. *International Journal of Speech Technology* (2021): 1-17. <https://doi.org/10.1007/s10772-021-09806-2>. (IF: 1.803) ([link](#))
- [14]. **Conference:** Namoos Hayat Qasmi<sup>RA</sup>, Haris Bin Zia, Awais Athar, and **Agha Ali Raza**, *SimplifyUR: Unsupervised Lexical Text Simplification for Urdu*. In 12th International Conference on Language Resources and Evaluation (*LREC 2020*), Marseille, France. <sup>Endnote i</sup> ([link](#))
- [15]. **Conference: (Honorable Mention Award)** Mustafa Naseem, Bilal Saleem, Sacha Ahmad, Jay Chen, **Agha Ali Raza**. *An Empirical Comparison of Technologically Mediated Advertising in Under-connected Populations*. In CHI Conference on Human Factors in Computing Systems Proceedings (*CHI 2020*), April 25–30, 2020, Honolulu, HI, USA, 13 pages. <http://dx.doi.org/10.1145/3313831.3376683>. (Core: A\*) ([link](#))
- [16]. **Conference:** Maryam Mustafa, Amna Batool, Beenish Fatima, Fareeda Nawaz, Kentaro Toyama, **Agha Ali Raza**. *Patriarchy, Maternal Health and Spiritual Healing: Designing Maternal Health Interventions in Pakistan*. In CHI Conference on Human Factors in Computing Systems Proceedings (*CHI 2020*), April 25–30, 2020, Honolulu, HI, USA, 13 pages. <http://dx.doi.org/10.1145/3313831.3376294>. (Core: A\*) ([link](#))
- [17]. **Conference:** Hafiz Rizwan Iqbal<sup>G</sup>, Saad Bin Zahid, **Agha Ali Raza**, *An Unsupervised Spoken Term Detection System for Urdu*. In 7th International Conference on Language and Technology (*CLT*), 19th - 21st February, 2020, Lahore, Pakistan. ([link](#))
- [18]. **Journal:** Aditya Vashistha, Umar Saif, and **Agha Ali Raza**. *The Internet of the Orals*. In Communications of the ACM (*CACM*), November 2019, Vol. 62 No. 11, Pages 100-103. <https://doi.org/10.1145/3343452>. (IF: 4.654) ([link](#))
- [19]. **Journal:** Maryam Mustafa, Amna Batool, and **Agha Ali Raza**. *Designing ICT Interventions for Women in Pakistan*. In Communications of the ACM (*CACM*), November 2019, Vol. 62 No. 11, Pages 46-47. <https://doi.org/10.1145/3355696>. (IF: 4.654) ([link](#))
- [20]. **Conference and Journal:** Hamid Mehmood<sup>RA</sup>, Tallal Ahmad, Lubna Razaq, Shrirang Mare, Maryam Zafar Usmani, Richard Anderson, and **Agha Ali Raza**. 2019. *Towards Digitization of Collaborative Savings Among Low-Income Groups*. In Proceedings of ACM Human-Computer Interaction 3, *CSCW*, Article 35 (2019), 30 pages. <https://doi.org/10.1145/3359137>. (Core: A, IF: 2.8) ([link](#))
- [21]. **Conference:** **Agha Ali Raza**, Zain Tariq, Shan Randhawa, Bilal Saleem, Awais Athar, Umar Saif, and Roni Rosenfeld. 2019. *Voice-Based Quizzes for Measuring Knowledge Retention in Under-Connected Populations*. In CHI Conference on Human Factors in Computing Systems Proceedings (*CHI 2019*), May 4–9, 2019, Glasgow, Scotland UK. ACM, New York, NY, USA, 14 pages. <https://doi.org/10.1145/3290605.3300642>. (Core: A\*) ([link](#))
- [22]. **Conference:** Aditya Vashistha, Abhinav Garg, Richard Anderson, and **Agha Ali Raza**. 2019. *Threats, Abuses, Flirting, and Blackmail: Gender Inequity in Social Media Voice Forums*. In CHI Conference on Human Factors in Computing Systems Proceedings (*CHI 2019*), May 4–9, 2019, Glasgow, Scotland UK. ACM, New York, NY, USA, 13 pages. <https://doi.org/10.1145/3290605.3300302>. (Core: A\*) ([link](#))

- [23]. **Conference: Agha Ali Raza**, Awais Athar, Shan Randhawa, Zain Tariq, Muhammad Bilal Saleem, Haris Bin Zia, Umar Saif, Roni Rosenfeld, *Rapid Collection of Spontaneous Speech Corpora using Telephonic Community Forums*. In Proceedings of **INTERSPEECH 2018**, Sep 2-6, Hyderabad, India. (Core: A) ([link](#))
- [24]. **Conference: Haris Bin Zia<sup>RA</sup>, Agha Ali Raza**, Awais Athar, *Urdu Word Segmentation using Conditional Random Fields*. In Proceedings of the 2018 International Conference on Computational Linguistics (**COLING 2018**), Aug 20-26, Santa Fe, New Mexico, USA. (Core: A) ([link](#))
- [25]. **Conference: Agha Ali Raza**, Bilal Saleem, Shan Randhawa, Zain Tariq, Awais Athar, Umar Saif, Roni Rosenfeld, *Baang: A Viral Speech-based Social Platform for Under-Connected Populations*. In CHI Conference on Human Factors in Computing Systems Proceedings (**CHI 2018**), April 21-26, Montréal, Canada. (Core: A\*) ([link](#))
- [26]. **Conference: Haris Bin Zia<sup>RA</sup>, Agha Ali Raza**, Awais Athar, *PronouncUR: An Urdu Pronunciation Lexicon Generator*. In 11th International Conference on Language Resources and Evaluation (**LREC 2018**), May 07-12, Miyazaki, Japan. <sup>Endnote i</sup> ([link](#))
- [27]. **Conference: Hira Ejaz<sup>RA</sup>, Syed Ali Hussain, Agha Ali Raza**, *The Case for IVR-Based Citizen Journalism in Pakistan*, In Proceedings of the 20th International Conference on Human-Computer Interaction with Mobile Devices and Services (**MobileHCI**). Sept. 03-06, 2018, Barcelona, Spain. (CORE: B) ([link](#))
- [28]. **Conference: Waleed Riaz<sup>G</sup>, Haris Durrani, Suleman Shahid, Agha Ali Raza**, *ICT Intervention for Agriculture Development: Designing an IVR System for Farmers in Pakistan*. In Proceedings of the International Conference on Information and Communication Technologies and Development (**ICTD 2017**), Nov 16-19, 2017, Lahore, Pakistan. <sup>Endnote ii</sup> ([link](#))
- [29]. **Conference: Agha Ali Raza**, Samia Razaq, Amna Raja, Rizwan Naru, Ali Gibran, Abdullah Sabri, Haroon Niaz, Muhammad Bilal Saleem, Umar Saif, *Real-time Automated Surveys among Low-literate Masses using Voice-based Telephone Services*. In **ACM DEV 2016**, November 18-20, 2016, Nairobi, Kenya. <sup>Endnote ii</sup> ([link](#))
- [30]. **Conference: Agha Ali Raza**, Rajat Kulshreshtha, Spandana Gella, Sean Blagsvedt, Maya Chandrasekaran, Bhiksha Raj, Roni Rosenfeld, *Viral Spread via Entertainment and Voice Messaging Among Telephone Users in India*. In Proceedings of the International Conference on Information and Communication Technologies and Development (**ICTD 2016**), Jun 03-06, 2016, Ann Arbor, Michigan, USA. <sup>Endnote ii</sup> ([link](#))
- [31]. **Conference: Nikolas Wolfe, Juneki Hong, Agha Ali Raza, Bhiksha Raj and Roni Rosenfeld**, Rapid Development of Public Health Education Systems in Low-Literacy Multilingual Environments: Combating Ebola Through Voice Messaging, in **SLaTE** (Workshop on Speech and Language Technology in Education), **INTERSPEECH 2015**, September 4-5, 2015, Leipzig, Germany. ([link](#))
- [32]. **Conference: Yibin Lin, Agha Ali Raza, Jay-Yoon Lee, Danai Koutra, Roni Rosenfeld and Christos Faloutsos**, *Influence Propagation: Patterns, Model and a CaseStudy*, in **PAKDD2014**, the 18th Pacific-Asia Conference on Knowledge Discovery and Data Mining, May 13-16, 2014, Tainan, Taiwan. (Core: A) ([link](#))
- [33]. **Conference: Haohan Wang, Agha Ali Raza, Yibin Lin, and Roni Rosenfeld**, *Behavior Analysis of Low-literate Users of a Viral Speech-based Telephone Service*, in Proceedings of the 4th Annual Symposium on Computing for Development, **ACM DEV-4**. December 6-7, 2013, Cape Town, South Africa. <sup>Endnote ii</sup> ([link](#))
- [34]. **Conference: (CHI Best Paper Award) Agha Ali Raza**, Farhan Ul Haq, Zain Tariq, Mansoor Pervaiz, Samia Razaq, Umar Saif and Roni Rosenfeld, *Job Opportunities through Entertainment: Virally Spread Speech-Based Services for Low-Literate Users*. In CHI Conference on Human Factors in Computing Systems Proceedings (**CHI 2013**). April 27-May 2, 2013, Paris, France. (Core: A\*) ([link](#))
- [35]. **Conference: Agha Ali Raza**, Farhan Ul Haq, Zain Tariq, Umar Saif, and Roni Rosenfeld, *Spread and Sustainability: The Geography and Economics of Speech-Based Services*. In Proceedings of **ACM DEV**, January 11-12, 2013, Bangalore, India. <sup>Endnote ii</sup> ([link](#))
- [36]. **Conference: Agha Ali Raza**, Mansoor Pervaiz, Christina Milo, Samia Razaq, Guy Alster, Jahanzeb Sherwani, Umar Saif, and Roni Rosenfeld. *Viral entertainment as a vehicle for disseminating speech-based services to low-literate users*. In Proceedings of the Fifth International Conference on Information and Communication Technologies and Development (**ICTD 2012**), March 12-15, 2012, Atlanta, Georgia, USA. <sup>Endnote ii</sup> ([link](#))

- [37]. **Conference: Agha Ali Raza**, Sarmad Hussain, Huda Sarfraz, Inam Ullah, Zahid Sarfraz, *An ASR System for Spontaneous Urdu Speech*, in the [Oriental COCOSDA 2010](#) conference, Nov. 24-25, 2010, Katmandu, Nepal. ([link](#))
- [38]. **Conference: Huda Sarfraz**, Sarmad Hussain, Riffat Bokhari, **Agha Ali Raza**, Inam Ullah, Zahid Sarfraz, Sophia Pervez, Asad Mustafa, Iqra Javed, Rahila Parveen, *Speech Corpus Development for a Speaker Independent Spontaneous Urdu Speech Recognition System*, in the [Oriental COCOSDA 2010](#) conference, Nov. 24-25, 2010, Katmandu, Nepal. ([link](#))
- [39]. **Conference: Huda Sarfraz**, Sarmad Hussain, Riffat Bokhari, **Agha Ali Raza**, Inam Ullah, Zahid Sarfraz, Sophia Pervez, Asad Mustafa, Iqra Javed, Rahila Parveen, *Large Vocabulary Continuous Speech Recognition for Urdu*, in International conference on the Frontiers of Information Technologies ([FIT](#)), December 21-23, 2010, Islamabad, Pakistan. ([link](#))
- [40]. **Conference: Agha Ali Raza**, Sarmad Hussain, Huda Sarfraz, Inam Ullah, Zahid Sarfraz, *Design and development of phonetically rich Urdu speech corpus*, Proceedings of [O-COCOSDA'09](#) and IEEE Xplore; O-COCOSDA'09, 10-13 Aug 2009, School of Information Science and Engineering of Xinjiang University, Urumqi, China. ([link](#))
- [41]. **Conference: Agha Ali Raza**, Awais Athar, and Sajid Nadeem, *N-GRAM Based Authorship Attribution in Urdu Poetry*, Proceedings of the Conference on Language and Technology 2009 ([CLT09](#)), Lahore, Pakistan, Jan 2009. ([link](#))
- [42]. **Conference: Agha Ali Raza**, Zulfiqar Habib, Manabu Sakai, *Interpolation with rational cubic spirals*, Proceedings of the 4<sup>th</sup> [IEEE International Conference on Emerging Technologies](#) (IEEE Catalog No. CFP08617, ISBN: 978-1-4244-2211-1, Library of Congress: 2008901427), Rawalpindi, Pakistan, Oct. 2008. ([link](#))
- [43]. **Conference: Agha Ali Raza**, Asma Zaib, Sana Altaf, Zulfiqar Habib, *On a Special case of path planning*, Proceedings of the 7<sup>th</sup> [CIIT Workshop on Research in Computing](#) (ISBN: 978-969-8779-18-4), Lahore, Pakistan, June 2008. ([link](#))

#### Peer-reviewed Posters, Abstracts and Symposium Papers

- [1]. Sacha St-Onge Ahmad, Sarojini Hirshleifer, Mustafa Naseem, Arman Rezaee, **Agha Ali Raza**, *Perceptions of Paternal Involvement in Maternal Healthcare in Rural Pakistan*, the annual meeting of [American Public Health Association \(APHA\)](#), Nov 6 – 9, 2022, Boston, USA. ([link](#))
- [2]. Sacha St-Onge Ahmad, Mustafa Naseem, Shan Randhawa, Muhammad Bilal Saleem, Agha Ali Raza, Tallal Ahmad, **Agha Ali Raza**, *Pilot of an Interactive Voice Response Service for Delivering Maternal Health Information to Expectant Fathers in Pakistan*. In International [Social and Behavior Change Communication Summit \(SBCC\)](#) 2020. ([link](#))
- [3]. Extended abstract: Ayesha Asghar<sup>G</sup>, **Agha Ali Raza**, Maryam Mustafa. Determining Socio-Economic status of Twitter users through their educational level, content they post and language. In HCI Across Borders Symposium at CHI Conference on Human Factors in Computing Systems Proceedings ([CHI 2019](#)), May 4–9, 2019, Glasgow, Scotland UK.
- [4]. Hamid Mehmood<sup>RA</sup>, Lubna Razaq, Jennifer Webster, Amna Batool, Maryam Mustafa, **Agha Ali Raza**, Richard Anderson, *Save My Money: Digitizing Informal Savings in Pakistan*, In HCI Across Borders Symposium at Conference on Human Factors in Computing Systems ([CHI 2018](#)). Apr 21-26, 2018, Montreal, Canada. ([link](#))
- [5]. Maryam Ayub<sup>RA</sup>, Sacha St-Onge Ahmad, Bilal Saleem, **Agha Ali Raza**, Mustafa Naseem, Jay Chen, *How to Advertise a Speech-Based Service to Offline Populations: A Case Study from Pakistan*, In HCI Across Borders Symposium at Conference on Human Factors in Computing Systems ([CHI 2018](#)). Apr 21-26, 2018, Montreal, Canada. ([link](#))
- [6]. Sacha St-Onge Ahmad<sup>RA</sup>, Muhammad Bilal Saleem, Maryam Ayub, Tallal Ahmad, Shan Randhawa, Zain Tariq, Mustafa Naseem, **Agha Ali Raza**, *Usage and Feedback from a 3-Week Launch of a Maternal Health Line for Men in Pakistan*, In HCI Across Borders Symposium at Conference on Human Factors in Computing Systems ([CHI 2018](#)). Apr 21-26, 2018, Montreal, Canada. ([link](#))
- [7]. Hira Ejaz<sup>RA</sup>, Syed Ali Hussain, **Agha Ali Raza**, *IVR-Based Citizen Journalism in Pakistan*, In HCI Across Borders Symposium at Conference on Human Factors in Computing Systems ([CHI 2018](#)). Apr 21-26, 2018, Montreal, Canada. ([link](#))
- [8]. Sacha St-Onge Ahmad<sup>RA</sup>, Mustafa Naseem, **Agha Ali Raza**, *Maternal Awareness for Low-Literate Expecting Parents via Voice-Based Telephone Services*, In HCI Across Borders Symposium at Conference on Human Factors in Computing Systems ([CHI 2017](#)). May 06-11, 2017, Denver, CO, USA. ([link](#))

- [9]. Abdullah Kharal<sup>RA</sup>, Mustafa Naseem, Sacha St-Onge Ahmad, **Agha Ali Raza**, *Sustainable IVR-Based Social Media for the Developing World*, In HCI Across Borders Symposium at Conference on Human Factors in Computing Systems (CHI 2017). May 06-11, 2017, Denver, CO, USA. ([link](#))
- [10]. Aditya Vashistha, **Agha Ali Raza**, Umar Saif, Roni Rosenfeld, Richard Anderson, *Changing Perceptions of Citizens of India and Pakistan*. In Development Consortium: HCI Across Borders at Conference on Human Factors in Computing Systems (CHI 2016). May 07-12, 2016, San Jose, USA. ([link](#))

### Technical Reports/Other Articles

- [1]. *Working paper: Sarojini Hirshleifer, Mustafa Naseem, Agha Ali Raza, Arman Rezaee. (2022). The spread of (mis)information: A social media experiment in Pakistan*. Working Paper Series No. WPS-213. Center for Effective Global Action (CEGA). University of California, Berkeley. <https://doi.org/10.5072/FK2W95949H> ([link](#))

### Thesis and Dissertation

- [1]. Agha Ali Raza, *Viral Entertainment as a Vehicle for Disseminating Core Development Services*, Ph.D. Dissertation, Carnegie Mellon University, May 2015. ([link](#))
- [2]. Agha Ali Raza, *Design and Development of an Automatic Speech Recognition System for Urdu*, MS Thesis, National University of Computer and Emerging Sciences, Lahore, June 2009. ([link](#))

### Teaching Experience (Post Ph.D.)

Semester	Institute, Course Code, Title	Class Size	Instructor Eval Score (5.0)	Course Eval Score (5.0)
Fall 2022	LUMS, CS225, Computing Fundamentals	97	4.72	4.31
Fall 2022	LUMS, CS535, Machine Learning	147	4.42	4.40
Spring 2022	LUMS, CS433, Speech Processing	54	4.34	4.03
Fall 2021	LUMS, CS225, Computing Fundamentals	97	2.70	2.81
Fall 2021	LUMS, CS535, Machine Learning	208	4.48	4.52
Spring 2021	LUMS, CS433, Speech Processing	80	4.08	3.74
Fall 2020	LUMS, CS225, Computing Fundamentals	120	4.57	4.40
Fall 2020	LUMS, CS535, Machine Learning	145	4.68	4.65
Spring 2020	LUMS, CS535, Machine Learning	61	4.73	4.56
Fall 2019	ITU, Data Structures and Algorithms	46	4.60 (Faculty avg: 4.16)	NA
Spring 2019	ITU, CS504, Speech Processing	57	4.50 (Faculty avg: 4.24)	NA
Fall 2018	ITU, Natural Language Processing	56	4.80 (Faculty avg: 4.20)	NA
Spring 2018	ITU, CS504, Speech Processing	39	4.68 (Faculty avg: 4.13)	NA
Fall 2017	ITU, Natural Language Processing	57	4.84 (Faculty avg: 3.83)	NA
Spring 2017	ITU, CS504, Speech Processing	52	4.66 (Faculty avg: 4.00)	NA
Fall 2016	ITU, Computational Linguistics	49	4.84 (Faculty avg: 3.83)	NA
Spring 2016	ITU, Microprocessor and Assembly Language	51	4.82	NA
Fall 2015	ITU, Data Structures and Algorithms	75	4.69	NA

### Salient Contributions as a Teacher

- Designed the course of [Machine Learning](#) (CS+EE, Grad + Ugrad) at LUMS and taught it annually since 2020.
- Designed the course of [Speech Processing](#) (CS+EE, Grad + Ugrad) and taught it annually since 2016.
- Designed the course of [Natural Language Processing](#) (Grad + Ugrad) and taught it annually from 2016 – 19.
- Taught [Data Structures & Algorithms](#) (Undergrad) at ITU and FAST-NUCES, 2006 – 10, 2019.
- Taught [Computer Organization & Assembly Language](#) (Undergrad) at ITU and FAST-NUCES, 2006 – 10, 2015.
- Taught [Computer Architecture](#) (Undergrad and Grad) at FAST-NUCES, 2006 – 10.

(My FCEs (student evaluations) have consistently and significantly exceeded departments' averages)

- Lab Courses:** Embedded Systems, Microprocessor Interfacing and Programming, Computer Organization & Architecture, Computer Logic & Design – FAST NUCES, 2005 – 06. (I also designed the lab manuals for these courses from scratch).

## Remote and In-person Courses and Certifications

---

- [Machine Learning](#) online course ([YouTube playlist](#), [Course Website](#)).
- [Speech Processing](#) online course ([YouTube playlist](#), [Course Website](#)).
- [Fundamentals of Computer Systems](#) online course ([YouTube playlist](#)).
- [Reflections: Career Counseling and General Advice for Students](#) ([YouTube playlist](#))
- [Machine Learning](#) online certification via LUMSx (In progress).
- A short course on [AI and Machine Learning for school children \(grades 6 – 10\)](#) with the LUMS Learning Institute in Summer 2023.
- A short course on [ChatGPT for Educators](#) with the LUMS Learning Institute in Summer 2023.
- A short course on [Prompt Engineering for Large Language Models \(LLMs\)](#) with the LUMS Learning Institute in Fall 2023.
- A short course on [Developing LLMs from Scratch](#) with the LUMS Learning Institute in Fall 2023.
- [Natural Language Processing](#) online certification (being planned).

## Additional Experience

---

- Lecturer for ML and NLP workshops at Mercy Health Network, USA (with Addo AI)** 2021 – 22  
The workshops covered theoretical and practical aspects of Machine Learning and Natural Language Processing. The diverse audience comprised Mercy’s leadership, HR as well as data science and tech teams.
- Reviewer of short educational videos (#examready) in collaboration with TikTok and Edkasa** 2021 – 22  
The videos cover topics from basic sciences oriented toward high school students. [Our videos have received 665 million+ views and 100,000+ videos have been created by users with the #examready.](#)
- Consultant for Gates-funded Digital Financial Services grant (with University of Washington)** 2017 – 18  
The project investigated the role of digitization of ROSCAs (committees) for the target users. I provided expertise in design for low-literate and non-tech-savvy audiences
- Consultant and guest lecturer for DFID-funded E-learn Punjab Project** 2015 – 16  
The project devised educational videos for high school students (grades 8 – 10) to accompany the textbooks. The project further deployed in-class mechanisms for maximum dissemination of these videos. I provided expertise in telephone-based voice information services, lecture design, and delivery.
- Consultant for Weather Info Services at the Center for Language Engineering (CLE)** 2015 – 16  
The project aimed to improve an existing weather service for farmers. The service utilized a speech input/output dialog system with a high accuracy speech recognizer. The interface needed improvement for a better task success rate. I provided expertise in the design of speech-based human interfaces for low-literate farmers. The task success rate was improved from 37.8% to 96.3%.

## Press and Media Coverage

---

### Project Deepfakes – Detection, Social Impact, Educational Interventions

- [1]. [Voice of America Urdu](#): جعلی ویڈیو یا آڈیو بنتی کیسے ہیں؟
- [2]. [Dawn News](#): LUMS team among winners of FB research award
- [3]. [The Express Tribune](#): Pakistani researchers among winners of Facebook misinformation project
- [4]. [ProPakistani](#): Pakistani Researchers Win Facebook’s Latest Project
- [5]. [The Current PK](#): Pakistani researchers win Facebook’s ‘Integrity Research Challenge’
- [6]. [Press Reader](#): LUMS Researchers get Facebook Funds
- [7]. [Business Recorder](#): Pak researchers among winners of Facebook project

### Polly: Entertainment Driven Information Spread, Connectivity and Service Delivery

- [1]. [NPR – Morning Edition](#): How A Drunken Chipmunk Voice Helps Send A Public Service Message



- [2]. [Carnegie Mellon University: Press Release](#): Carnegie Mellon Phone Service Uses Funny Recordings To Make Anti-Ebola Health Messages "Go Viral" in Guinea
- [3]. [Carnegie Mellon University: The Tartan](#): Phone game helps illiterate Pakistanis find employment.
- [4]. [Carnegie Mellon University: The Link](#): Polly spreads the word: Delivering information to a low-literacy audience using viral methods
- [5]. [Carnegie Mellon University: 8.5x11 News](#): Silly Phone Game Provides Job Opportunities
- [6]. [MIT Tech Review International](#): Viral Phone Game helps Low-literate Pakistanis find Job Listings
- [7]. [Express Tribune: Technology](#): Phone-based job portal, social network introduced.
- [8]. [The Times of India](#): Telephone Game helps Low-literate Pakistanis find Job Listings
- [9]. [IEEE Signal Processing Society](#): Speech Interfaces for Low-literate Users
- [10]. [Speech and Language Processing Technical Committee Newsletter](#): Interview: Speech Interfaces for Low-Literate Users
- [11]. [EurekaAlert](#): Silly phone game puts illiterate Pakistanis in touch with potential employers.
- [12]. [Science Newslines](#): Phone Game helps Low-literate Pakistanis find Job Listings
- [13]. [Pittsburgh Post-Gazette](#): A game called Polly is designed to promote literacy.
- [14]. [KeraNews – News for North Texas](#): How A Drunken Chipmunk Voice Helps Send A Public Service Message
- [15]. [TechGig.com](#): Phone Game helps Low-literate Pakistanis find Job Listings
- [16]. [Geeks without Bounds](#): Reaching Low-literate Populations using Voice-based Games.
- [17]. [Yahoo Finance, India](#): Funny Phone Game Helping Illiterates
- [18]. [GizMag](#): Polly Telephone Service – Voice Game
- [19]. [WebIndia](#): Funny phone game helping illiterates in Pak get job opportunities
- [20]. [RedOrbit](#): Silly Phone Game puts Illiterate Pakistanis in touch with Potential Employers
- [21]. [Technology Times, Pakistan](#): Phone Game may make Illiterates Seek Jobs
- [22]. [UPI Asia](#): Phone Game teaches Pakistanis to use Automated Job Services
- [23]. [Futurity](#): How Funny Messages from ‘Polly’ can Fight Ebola
- [24]. [NewAtlas](#): Voice game helps introduce the illiterate to phone-based services.
- [25]. [Phys.org](#): Silly phone game puts illiterate Pakistanis in touch with potential employers.

#### **Rah-e-Maa and Super Abbu: Maternal Health Information for Expectant Fathers**

- [1]. [BBC Urdu \(Video\)](#): سُپر ابو کون ہے، پاکستانی مرد اس سے کیا پوچھتے ہیں؟
- [2]. [Michigan News](#): Super Abbu project: Improving maternal health by engaging fathers.
- [3]. [GNN](#): Super Abbu Kon Hai?
- [4]. [UNICEF Innovation Fund](#): Rah-E-Maa: A hotline for maternal care
- [5]. [Apolitical](#): In Pakistan, dads taking part in maternal care could save lives: A telephone hotline is getting men engaged.
- [6]. [TechJuice](#): Super Abbu is educating fathers in Pakistan to improve maternal health.
- [7]. [ICTWorks](#): IVR is the Killer Mode for Development Service Customer Acquisition

#### **Phonetically Rich Urdu Speech Corpus and Speech-to-Text for Urdu**

- [1]. [MIT Tech Review Pakistan](#): One Step forward towards Urdu Speech Recognition Apps
- [2]. [Dawn](#): Pakistani researchers lay the foundation for building Urdu speech recognition system
- [3]. [Pakwired](#): Urdu Speech Recognition comes to life through Urdu Speech Corpus
- [4]. [ProPakistani](#): Pakistani Professor Develops First Ever Urdu Speech Recognition Database

- [5]. [Samena Telecom Council](#): Pakistani researchers set to build Urdu speech recognition system.
- [6]. [Islamic Voice, Bengaluru, India](#): Urdu Speech Recognition System
- [7]. [Phone World](#): The Need of Local Language Content to Overcome Digital Divide

#### **Mehr-e-Nastaliq Web Urdu Font**

- [1]. [MIT Tech Review Pakistan](#): Pakistani Researchers Develop a Calligraphy-based Urdu Font for the Internet
- [2]. [Geo News](#): Internet kay Liyay Khattati per Mabni Urdu Font Tayyar
- [3]. [Geo TV](#): انٹرنیٹ کیلئے خطاطی پر مبنی اردو فونٹ تیار – Pakistani Researchers Launch Calligraphic Urdu front for the Internet
- [4]. [Jang News](#): Calligraphic Urdu Font ready for Internet Users
- [5]. [Dawn](#): Pakistani Researchers Develop a Calligraphy-based Urdu Font for the Internet
- [6]. [ProPakistani](#): The First Truly Universal Urdu Font
- [7]. [Morenews](#): Mehr-e-Nastaliq; Pakistanis Developed Urdu Web Font
- [8]. [Siasat.pk](#): Pakistani Researchers Develop a Calligraphy-based Urdu Font for the Internet
- [9]. [Urdupoint \(Link2\)](#): پاکستانی خطاط نصیر اللہ مہر اور ان کے بیٹے ذیشان مہر نے انٹرنیٹ کے لئے کیلی گرافک اردو فونٹ تیار کر لیا
- [10]. [Neo News](#): Pakistani researchers developed calligraphic Urdu font for Internet.
- [11]. [Pakwired](#): A Labor of Love: First Universal, Calligraphy Based Urdu Font for The Internet Developed at ITU
- [12]. [Techlist](#): Pakistani calligrapher created new Urdu font for web.

#### **Muhammad Raza – A talented student from CSaLT**

- [1]. [Dawn](#): 11 year old tech prodigy wows professors at ITU
- [2]. [Technology Times, Pakistan](#): 11-Year-Old Tech Prodigy Wows Professors At ITU

#### **Honors and Awards**

---

- ACM CHI 2020 Honorable Mention Award
- ACM CHI 2013 Best Paper Award
- Fulbright 2010 Doctoral scholarship
- Highest CGPA of 3.96 in Master of Computer Science at NUCES FAST

#### **Professional Services**

---

- *Associate Chair* for the “Specific Application Areas” subcommittee of the Program Committee for CHI 2019, 21 – 22
- *Associate Editor (AE)* of the ACM Journal on Computing and Sustainable Societies (JCSS).
- *Committee co-chair* for open sessions at ICTD 2022
- *Technical Program Committee* (papers) member for ICTD2016 – 23
- *Technical Program Committee* (papers) member for ACM COMPASS 2018 – 23
- *Scientific Committee* member for the International Conference on Language Resources and Evaluation (LREC) 2020 – 22
- *Program Committee Chair* for Short Papers (Notes) for ICTD 2017
- *Reviewer* for the Journal of Information Processing and Management, Elsevier, 2023.
- *Reviewer* for the Journal of Natural Language Engineering (NLE) 2022 – 23
- *Reviewer* for ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW) 2020 – 23
- *Reviewer* for Transactions on Asian and Low-Resource Language Information Processing (TALLIP)
- *Reviewer* for ACM User Interface Software and Technology (UIST) 2019 conference

- *Reviewer* for ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW) 2019
- *Reviewer* for CHI 2015 – 2018
- Reviewer for DIS 2019
- *Technical Program Committee* (papers and posters) member for ACM DEV2015 – 16
- Organized ICTD 2017 in Pakistan at ITU, Lahore. ICTD is the flagship conference in the domain of Information and Communication Technologies for Development
- Member of the *Board of Studies* of the Department of Applied Linguistics at Kinnaird College for Women
- *External Evaluator* for MPhil theses in Applied Linguistics at Kinnaird College for Women University (2018 – 19)
- Publication Chair and Technical Program Committee member for CLT2016 at UET

## Department and University Services

---

- Senior Research Fellow of [Mahbub-ul-Haq Research Centre](#), LUMS – 2021 – now
- Convener of [MS Data Science Program Design Committee](#), LUMS – 2021 – 22
- Member of the ad-hoc committee for actualizing the [MS AI program](#) of the School of Science and Engineering, LUMS – 2022
- Member of the committee for developing the [Science Aptitude Test](#) for the Fall 2023 admissions to the School of Science and Engineering, LUMS.
- Member of Student Activities, Outreach, and Alumni Committee ([SOAC](#)), LUMS – 2020
- Faculty Editor of Computer Science Newsletter ([BYTES](#)), LUMS – 2021 – 22
- Member of [Graduate Admission Committee](#), LUMS – 2020 – 23
- Member of the SBASSE committee on the subject test requirement of [Undergraduate and Graduate admissions](#) – 2022
- Member Computer Science [Undergraduate Program Committee](#) (UPC) – 2021 – 22
- I have been a member of a panel that helped the SSE admissions with the [File Review process of the SSE Undergraduate admissions](#). There were applicants with odd degree combinations, the bottom of admits/top of rejects, and cases where applicants were unable to take the admission test(s). I reviewed 116 applications belonging to five different categories, June 2021.
- Member of the committee for collaboration between [System Ltd.](#), [Ali Institute](#), and [LUMS SSE](#), for launching a diploma in Computer Science. The collaboration aimed to develop diploma courses to upskill CS graduates to make them more employable. LUMS is to provide instructors, expertise, and overall advice and guidance, LUMS - 2021
- Director of [ORIC](#) at ITU – 2019
- Member of the [Undergraduate Curriculum Committee](#) – 2016 – 19
- Vice-president of the [ACM SIGCHI Lahore Chapter](#) – 2017 – 20
- Founder and Director, [Center for Speech and Language Technologies](#) (CSaLT) – 2015 – Now
- Established [UNESCO Chair for ICT4D](#) at ITU in 2018 (with Umar Saif and Amna Raja).
- Faculty Advisor to the [SOFTEC](#) student society of FAST-NU. I supervised the SOFTEC 2008 – 09 events. SOFTEC (SOFTWARE Exhibition & Competition) is the largest student-arranged IT extravaganza in Pakistan.
- Faculty Co-Advisor to the [Interface society](#) of FAST-NU, which publishes the annual university magazine.
- Faculty Advisor to the [DRAM@F society](#) (dramatic society) of FAST-NU. The society arranged the annual drama festival 2008 under my supervision.
- Faculty Advisor to the [CREATIVE](#) society of FAST-NU, which organizes academic and recreational student events.

## Talks, Guest Lectures, Expert Interviews

---

- **Apr 04, 2023:** The ERA of CHATGPT, [podcast Outloud with Ammaar.](#) ([Link](#))

- **Mar 10, 2023:** ChatGPT: The Good, the Bad, and the Ugly, [public talk arranged by the LUMS Learning Institute \(LLI\)](#). ([Link](#))
- **Feb 25, 2023:** [TEDx Aitchison](#) - The Internet of the Orals. The theme of the event was "Giving Back".
- **Feb 24, 2023:** Talk on the Academic repercussions of ChatGPT, arranged by the [LUMS Learning Institute \(LLI\)](#) for the faculty of the [School of Humanities and Social Sciences \(HSS\)](#) at LUMS.
- **Mar 3, 2023:** A [Podcast on the MS and Ph.D. programs](#) at the Department of Computer Science at LUMS. ([Link](#))
- **Dec 24, 2022:** Invited talk on "Sounds Fake! Deep Fake Detection for Resource-constrained Settings" at the [BigC 2022 conference](#), [LUMS, Pakistan](#).
- **Dec 12, 2022:** Conducted a workshop on "NLP: Embeddings" at the [Mercy Health Network, USA](#), in collaboration with ADDO AI.
- **Dec 09, 2022:** Invited [Webcast on Computer Science graduate admissions at LUMS](#).
- **Nov 14, 2022:** Conducted a workshop on "NLP: Smoothing in Language Models" at the [Mercy Health Network, USA](#), in collaboration with ADDO AI.
- **Nov 06, 2022:** Invited member of a panel discussion on "Catch 22: Automation and the human race. Who wins and who loses?" at the [Schools of Tomorrow \(SOT\) conference at Beaconhouse School System, Pakistan](#).
- **Oct 26, 2022:** Invited talk at [Microsoft Research India \(MSRI\)](#) at Lab Sabha on "The Internet of the Orals".
- **Oct 23, 2022:** Conducted a workshop on "NLP: N-Gram-based Language Models" at the [Mercy Health Network, USA](#), in collaboration with ADDO AI.
- **Sep 19, 2022:** Conducted a workshop on "NLP: Introduction to Natural Language Processing – Part 2" at the [Mercy Health Network, USA](#), in collaboration with ADDO AI.
- **Sep 06, 2022:** Conducted a workshop on "NLP: Introduction to Natural Language Processing – Part 1" at the [Mercy Health Network, USA](#), in collaboration with ADDO AI.
- **Aug 14, 2022:** Independence Day talk at [Meta](#) on "The Internet of the Orals".
- **Jul 25, 2022:** Conducted a workshop on "Machine Learning: Unsupervised Learning – Anomaly Detection" at the [Mercy Health Network, USA](#), in collaboration with ADDO AI.
- **July 13, 2022:** Invited talk on "The Internet of the Orals" at [AI Connect 2022 organized by Motive](#) (formerly Keeptruckin), Pearl Continental, Lahore, Pakistan.
- **Jun 27, 2022:** Conducted a workshop on "Machine Learning: Unsupervised Learning – Dimensionality Reduction and Principal Component Analysis" at the [Mercy Health Network, USA](#), in collaboration with ADDO AI.
- **May 31, 2022:** Conducted a workshop on "Machine Learning: Unsupervised Learning – Gaussian Mixture Models and Agglomerative Clustering" at the [Mercy Health Network, USA](#), in collaboration with ADDO AI.
- **Apr 28, 2022:** Paper presentation (Fostering Engagement of Underserved Communities with Credible Health Information on Social Media) at [TheWebConf 2022 \(WWW'22\)](#), April 25 - 29, 2022, Lyon, France.
- **Apr 25, 2022:** Conducted a workshop on "Machine Learning: Unsupervised Learning – Clustering: KD-Trees and K-means" at the [Mercy Health Network, USA](#), in collaboration with ADDO AI.
- **Apr 11, 2022:** Expert interview at the [University of Washington, Seattle](#), for a Microsoft-funded project in Kenya on maternal health information dissemination.
- **Mar 28, 2022:** Conducted a workshop on "Machine Learning: Boosting, Gradient Boosted Trees, and AdaBoost" at the [Mercy Health Network, USA](#), in collaboration with ADDO AI.
- **Feb 22, 2022:** Invited guest lecture on "The internet of the Orals: Orality by chance and by choice!" in the [class of ICT4D at LUMS](#).
- **Jan 31, 2022:** Conducted a workshop on "Machine Learning: Bagging and Random Forests" at the [Mercy Health Network, USA](#), in collaboration with ADDO AI.
- **Dec 13, 2021:** Conducted a workshop on "Machine Learning: Decision Trees - Part 2" at the [Mercy Health Network, USA](#), in collaboration with ADDO AI.
- **Nov 02, 2021:** Guest lecture on "The internet of the Orals" at the [Cornell University, Ithaca, NY](#) in the class of Computing and Global Development taught by Aditya Vashista.

- **Oct 25, 2021:** Conducted a workshop on “Machine Learning: Decision Trees - PART 1” at the [Mercy Health Network, USA](#), in collaboration with ADDO AI.
- **Oct 04, 2021:** Conducted a workshop on “Machine Learning: K Nearest Neighbors” at the [Mercy Health Network, USA](#), in collaboration with ADDO AI.
- **Aug 30, 2021:** Conducted a workshop on “Machine Learning: Artificial Neural Networks and Support Vector Machines” at the [Mercy Health Network, USA](#), in collaboration with ADDO AI.
- **Aug 21, 2021:** Guest lecture on “Reaching Underserved Communities” at the [International Summer School on ICT for Sustainability, Lorentz Center, Leiden, the Netherlands](#), followed by an hour of Q/A.
- **Jul 26, 2021:** Conducted a workshop on “Machine Learning: Artificial Neural Networks” at the [Mercy Health Network, USA](#), in collaboration with ADDO AI.
- **Jun 28, 2021:** Conducted a 3hr workshop on “Machine Learning: Discriminative Models” at the [Mercy Health Network, USA](#), in collaboration with ADDO AI.
- **Jun 25, 2021:** Guest lecture on “The internet of the Orals” at the [University of Maryland, College Park](#) in the class of “Global Health Messages: Understanding Exposure and Impact” taught by Sacha Ahmad.
- **May 24, 2021:** Conducted a 3hr workshop on “Machine Learning: Generative Models” at the [Mercy Health Network, USA](#), in collaboration with ADDO AI.
- **Apr 12, 2021:** Guest speaker in the panel (of two) discussion in Dr. Fahad Dogar’s class on “Computing for Developing Regions” at [Tufts University, USA](#).
- **Mar 31, 2021:** Guest Lecture on “The internet of the Orals” in the ICTD class Dr. Jay Chen at the [University of California, Berkeley](#).
- **Mar 18, 2021:** Guest Lecture on “The internet of the Orals” in the HCI class Dr. Dipanjan Chakraborty at the [Birla Institute of Technology and Science, Pilani \(BITS Pilani\)](#), Hyderabad Campus.
- **Feb 26, 2021:** Expert Interview on “Digital Literacy” at [Google Inc](#).
- **Jul 09, 2020:** Invited talk on Machine Learning, Artificial Intelligence and Robotics, at [Standard Chartered Bank, Pakistan](#). The talk was attended by 97 participants from SCB.
- **Jul 01, 2020:** Invited talk on Viral Spread of COVID-19 Information using an IVR Social Platform, at [Google, Mountain View, CA, USA](#). The talk was attended remotely by 50 participants from various Google teams around the world.
- **Mar 06, 2020:** Invited talk on *Speech over simple phones: The internet of the Orals*, at the DICE-IET 2020 conference at the [COMSATS University, Lahore, Pakistan](#).
- **Jan 27, 28, 2020:** Invited panel discussion in the class of Human-Computer Interaction (HCI) at the [University of Michigan, Ann Arbor, USA](#).
- **Nov 17, 2019:** Invited keynote address on *Speech over simple phones: The internet of the Orals*, at the ICICT 2019 conference at the [Institute of Business Management \(IBA\), Karachi](#).
- **May 10, 2019:** Invited talk on *Speech over simple phones: The internet of the Orals*, at the School of Mathematical and Computer Sciences of [Heriot Watt University, Edinburgh, Scotland, UK](#).
- **Apr 21, 2019:** Invited colloquium talk on *Speech over simple phones: The internet of the Orals*, at the Computer Science Department of [New York University, Abu Dhabi \(NYU-AD\)](#).
- **Apr 18, 2019:** Invited guest lecture on *Speech over simple phones: The internet of the Orals*, at the Computer Science Department of [Lahore University of Management Sciences \(LUMS\)](#).
- **Apr 14, 2019:** Invited seminar lecture on *Speech over simple phones: The internet of the Orals*, at the Computer Science Department of [Carnegie Mellon University, Qatar \(CMU-Q\)](#).
- **Feb 25, 2019:** Guest Lecture on *Viral Entertainment as a Vehicle for Disseminating Development Services*, to the Human-Computer Interfacing class at [Lahore University of Management Sciences \(LUMS\)](#).
- **Jun 29, 2018:** Invited talk at UNESCO Chair in Technologies for Development: Voices of the Global South, [EPFL-Tech4Dev](#) on *Speech-based Telephone Services for Development*.
- **Apr 24, 2018:** Paper presentation at [CHI 2018](#) on *Baang: A Viral Speech-based Social Platform for Under-Connected Populations*.

- **Dec 18, 2017:** Guest lecture on *Speech and Natural Language Processing: An Introduction*, at [University of Management and Technology \(UMT\), Lahore](#) for BS CS students of Artificial Intelligence and Machine Learning courses.
- **Nov 18, 2017:** Panelist on a panel discussion on Urdu Language and IT, at [Faiz International Festival, Lahore](#). Other panelists included Dr. Sarmad Hussain, Mr. Musharaf Ali Farouqi and Prof. Kamran Malik. The panel was moderated by Dr. Umar Saif.
- **Jan 08, 2017:** Keynote talk on the use of *Speech-based Social Media to provide social connectivity among low-literate and visually impaired masses*, at Assistive Communication Technology Event by [Riphah International University](#).
- **Nov 17, 2016:** Invited talk on Speech-based Social Media at the 6th International Conference on Language & Technology (CLT'16), [University of Engineering and Technology \(UET\), Lahore](#).
- **Oct 28, 2016:** Guest Lecture on *Morphological Parsing and Stemming* at [Kinnaird College for Women](#) for BS and MPhil students of Applied Linguistics.
- **Jun 04, 2016:** Paper presentation at [ICTD 2016](#) on *Viral Spread via Entertainment and Voice-Messaging Among Telephone Users in India*
- **May 12, 2016:** Invited talk at [Google and Youtube, Mountain View, CA, USA](#) on *Virality of mobile-based, speech services and dissemination of development-related information to low-literate masses*.
- **Apr 29, 2016:** Invited talk on *ICT4D and research opportunities at ITU*, at [FAST National University, Lahore, Pakistan](#).
- **Feb 03, 2016:** Remote guest lecture on *Viral Entertainment as a Vehicle for Disseminating Development Services* delivered to the faculty of [College of Aeronautical Engineering \(NUST\), Risalpur, Pakistan](#).
- **Nov 23, 2015:** Guest Lecture on *Viral Entertainment as a Vehicle for Disseminating Development Services*, to the undergraduate Human-Computer Interfacing class at [Lahore University of Management Sciences \(LUMS\)](#).
- **Oct 27, 2015:** Invited talk on *Multi-Modal Interfaces and Channels for Access of Local Language Content* at the Workshop on Facilitating Local Language Content Access and Generation using Human Language Technologies at [KICS, UET](#) arranged by Center for Language Engineering (CLE).

## Research Collaborators

---

- Prof. Roni Rosenfeld, [Carnegie Mellon University, Pittsburgh, PA, USA](#)
- Prof. Richard Anderson, [University of Washington, Seattle, USA](#)
- Prof. Kentaro Toyama, [University of Michigan, Ann Arbor, USA](#)
- Prof. Jay Chen, [New York University, Abu Dhabi and ICSI, Berkeley, USA](#)
- Prof. Melissa Densmore, [University of Cape Town, South Africa](#)
- Dr. Sacha St-onge Ahmad, [University of Maryland, College Park, USA](#).
- Prof. Arman Razaee, [University of California, Davis, USA](#)
- Prof. Sarojini Hirshleifer, [University of California, Riverside, USA](#)
- Prof. Mustafa Naseem, [University of Michigan, Ann Arbor, USA](#)
- Prof. Aditya Vashistha, [Cornell University, Ithaca, USA](#)
- Prof. Jeanna Matthews, [Clarkson University, Potsdam, NY, USA](#).
- Prof. Maryam Mustafa, [Lahore University of Management Sciences, Lahore, Pakistan](#)
- Prof. Ihsan Ayyub Qazi, [Lahore University of Management Sciences, Lahore, Pakistan](#)
- Prof. Ayesha Ali, [Lahore University of Management Sciences, Lahore, Pakistan](#)
- Prof. Zafar Ayyub Qazi, [Lahore University of Management Sciences, Lahore, Pakistan](#)
- Prof. Saeed Ul Hasan (late), [Manchester Metropolitan University, Manchester, UK](#)
- Prof. Faisal Kamiran, [Information Technology University \(ITU\) and ADDO AI, Lahore, Pakistan](#)
- Prof. Mudassir Shabbir, [Vanderbilt University, Nashville, Tennessee, United States](#)

- Prof. Syed Ali Hussain, [Arizona State University](#), USA
- Dr. Nithya Sambasivan, [Google Inc.](#)
- Garen Checkley, [Google Inc.](#)
- Dr. Awais Athar, [European Bioinformatics Institute \(EMBL-EBI\)](#), Cambridge, UK
- Dr. Maryam Bashir, [FAST-NU](#), Lahore, Pakistan.

## Mentorship and Student Supervision

---

### Peer Mentees

- [1]. Mustafa Naseem, Clinical Assistant Professor at the [University of Michigan, Ann Arbor](#).
- [2]. Amna Batool, ex-faculty at the Information Technology University, Lahore and currently a Ph.D. student at the [University of Michigan, Ann Arbor](#).
- [3]. Samia Razaq Khan, ex-faculty at the Information Technology University, ex-Ph.D student at the University of Washington Seattle, and currently a User Experience Researcher at [Axon, Seattle, Washington, USA](#).
- [4]. Tehreem Yasir, ex-Assistant Professor at FAST-NU, Lahore, now a technical content developer at [Educative](#) and about to leave for graduate studies as a [Fulbright Scholar](#).

### Ph.D. Supervision as Advisor

- [1]. Abdul Hameed Azeemi, *Representative Subset Selection for Self-Supervised Speech Processing*, Department of Computer Science, LUMS, Lahore, Pakistan. Co-advisor: Dr. Ihsan Ayyub Qazi. 2021 – now.
- [2]. As advisor: Hafiz Rizwan Iqbal, *Urdu Plagiarism Detection*, Department of Computer Science, ITU, Lahore, Pakistan. Co-Advisor: Dr. Saeed Ul Hasan. 2017 – now.

### Ph.D. Supervision as Co-Advisor

- [1]. Nimra Zaheer, *Speech Emotion Recognition for the Urdu Language*, Department of Computer Science, ITU, Lahore, Pakistan. Advisor: Dr. Mudassir Shabbir. **In progress.**

### Ph.D. Supervision as Dissertation Committee Member

- [1]. Zarmeen Nasim, *On Building an Interpretable Clustering Approach for Urdu Language*, School of Mathematics and Computer Science, IBA, Karachi, Pakistan. Advisor: Dr. Sajjad Haider. **Graduated – 2022.**
- [2]. Iqra Safdar, *Deep Feature Engineering Approaches for Algorithm Searching from Full-text Publications*, Department of Computer Science, ITU, Lahore, Pakistan. Advisor: Dr. Saeed Ul Hasan. **Graduated – 2021.**
- [3]. Hajra Waheed, *Using Deep Learning in the Early Prediction of At-Risk Learners in Self-Paced Online Education*, Department of Computer Science, ITU, Lahore, Pakistan. Advisor: Dr. Saeed Ul Hasan. **Graduated – 2022.**
- [4]. Farah Adeeba, *Acoustic Feature-based Language Identification Using Single Word Utterances with Fixed Vocabulary*, Department of Computer Science and Engineering, University of Engineering and Technology, Lahore, Pakistan. Advisor: Dr. Sarmad Hussain. **Graduated – 2019.**
- [5]. Muhammad Ahmad, *Immunization and Summarization of Large Graphs*, LUMS. Advisor: Dr. Imdadullah Khan. **Graduated – 2023 .**
- [6]. Esma Wali, *Study of Bias and Underrepresentation in Natural Language Processing (NLP) Toolchain Across Human Languages*, Department of Computer Science, Clarkson University, Potsdam NY, USA. Advisor: Dr. Jeanna Matthews. **In progress.**

### MS Thesis Supervision as Advisor

#### LUMS

- [7]. Zara Tahir, Urdu Spoken Keyword Spotting, 2022 – 23, **Graduated.**
- [8]. Badar Shaban, Arabic Handwriting Recognition, 2021 – 22, **Graduated.**
- [9]. Taha Muzammil, Generative Chatbot for the Urdu Language, 2021 – 22, **Graduated.**
- [10]. Sohaib Qadeer, Leveraging Emojis for Emotion Analysis in Code-Mixed Social Media Text, 2021 – 22, **Graduated.**

- [11]. Rabia Atique, Identification & Mitigation of Gender Bias in Sentiment Classification Task, 2021 – 22, **Graduated.**
- [12]. Muhammad Waiz Khan, Fact Verification in the Urdu Language, 2020 – 21, **Graduated.**
- [13]. Saba Asif, Creation of Urdu WordNet, 2020 – 21, **Graduated.**
- [14]. Tasmia Rana, Plagiarism Corpora Creation for the Urdu Language, 2020 – 21, **Graduated.**
- [15]. Fareeda Nawaz, Batooni: Single Speaker Large Vocabulary Urdu Text-to-Speech System, 2020 – 21, **Graduated.**
- [16]. Muhammad Ibtissam, LSTM Based Masked Language Model Using BERT Embeddings, 2020 – 21, **Graduated.**

#### **Information Technology University – MS Thesis Students and Graduate Fellows (GF)**

- [1]. Amna Dilawar, Sentiment Analysis for Roman Urdu, 2020
- [2]. Asma Mushtaq, Crime Information Extraction and Visualization from e-Newspapers, 2019
- [3]. Namooos Hayat Qasmi<sup>GF</sup>, Urdu text simplification, 2019
- [4]. Aamina Batool<sup>GF</sup>, Speech emotion detection, 2019
- [5]. Jawad Arshad<sup>GF</sup>, Pronunciation verification using anomaly, 2019
- [6]. Hafiz Muhammad Hamid, Unsupervised Repeating Spoken Term Discovery for Urdu, 2019
- [7]. Rashad Maqsood, Urdu Plagiarism Detection, 2019
- [8]. Asad Mustafa Khan, Urdu Plagiarism Detection, 2019
- [9]. Faisal Rehman, Predicting Academic Performance based on Demographic and Clickstream Data, 2019
- [10]. Momna Dar, Authorship Attribution in Urdu Poetry, 2019
- [11]. Hassan Masood, Roman Urdu Speech Recognition (Transfer Learning), 2019
- [12]. Mateen Ahmad, Roman Urdu TTS (Transfer Learning), 2019
- [13]. Muhammad Rauf Tabassam, Bahar recognition in Urdu Poetry, 2019
- [14]. Farhan Ahmad<sup>GF</sup>, Speech recognition of Quranic recitation, 2018
- [15]. Amna Dilawar, Sentiment Analysis for Roman Urdu, 2018
- [16]. Syed Ali Abbas, Autonomous control for UAVs, 2018
- [17]. Samra Mubeen, Multispeaker phonetically rich Urdu speech corpus using natural sentences, 2018
- [18]. Omer Asif, IVR style apps for smartphones, 2018
- [19]. Haris Bin Zia<sup>GF</sup>, Multispeaker speech recognition for Urdu, 2017
- [20]. Sana Saeed Khan<sup>GF</sup>, Influence of phonetic overlap between src and trg languages for SALAAM Urdu speech recognition, 2017
- [21]. Ghulam Mujtaba, Influence of phonetic overlap on use of SALAAM for local language recognition, 2017
- [22]. Saad Bin Zahid, Keyword spotting for Urdu, 2017
- [23]. Rana Khurram Qadeer, Increasing parental involvement during pregnancy, 2017
- [24]. Muneeb Sajjad, Urdu alphabet teacher for kids, 2016

#### **MS Thesis Supervision as Co-advisor**

- [1]. Nabeel Ahmad Gulzar, Making Data Charts Accessible For Visually Impaired Persons (VIP), Advisor: Dr. Asim Karim, 2022
- [2]. Saad Arshad, Abstractive News Summarization for Low Resource Language Urdu, Advisor: Dr. Asim Karim, 2022
- [3]. Atta ur Rehman Shah, Transliteration and Translation of code-mix Language (Roman Urdu and English) to Urdu Through Deep Learning Techniques, Advisor: Dr. Asim Karim, 2021
- [4]. Bilal Shabbir, Topic Modeling of Short Text based on Deep Learning Model, Advisor: Dr. Asim Karim, 2021
- [5]. Ubaid Azam, Data Augmentation to improve Hate Speech Classification in Roman Urdu, Advisor: Dr. Asim Karim, 2021



- [6]. Osama Arshad, An Unsupervised Deep Learning Approach for Hate-Speech Detection in Roman Urdu Text, Advisor: Dr. Asim Karim, 2021
- [7]. Aisha Anjum, Automatic acoustic environment classification, Advisor: Dr. Adnan Noor Mian, 2017
- [8]. Waleed Riaz, IVR services to provide information access to farmers, Advisor: Dr. Suleman Shahid, 2017
- [9]. Afsheen Ali, Vision and sentiments, Advisor: Dr. Mohsen Ali, 2018
- [10]. Hamid Mehmood, Towards Digitization of Collaborative Savings Among Low-Income Groups, Advisor: Ms. Amna Batool, 2017

#### **MS Thesis Supervision as Thesis Committee Member**

- [1]. Anas Muhammad, Reducing Class-imbalance by Oversampling Time-Series Data using Deep Learning, Advisor: Dr. Saeed Ul Hassan, 2020
- [2]. Adnan Umer, Advisor: Dr. Saeed Ul Hasan, 2019
- [3]. Ahmad Zafar, Blockchain, Advisor: Dr. Falak Sher, 2019
- [4]. Ahmed Tariq Butt, Advisor: Dr. Saeed Ul Hasan, 2019
- [5]. Ali Shahid, Advisor: Dr. Saeed Ul Hasan, 2019
- [6]. Ali Setwat, Speaker Identification, Advisor: Dr. Suleman Mazhar, 2019
- [7]. Ammara Malik, Kinnaird College for Women, 2019
- [8]. Ayesha Asghar, Determining Socio-economic Status of Twitter Users from Posted Content, Advisor: Dr. Maryam Mustafa, 2019
- [9]. Bilal Ahmad, Advisor: Dr. Saeed Ul Hasan, 2019
- [10]. Faisal Maqbool, Advisor: Dr. Saeed Ul Hasan, 2019
- [11]. Fouzia Younas, Designing Digital Safe Spaces for Peer Support and Connectivity in Patriarchal Contexts, Advisor: Dr. Maryam Mustafa, 2019
- [12]. Hafiz Muhammad Nauman, Incentive and Assessment Driven News Dissemination System for Fake News Prevention, Advisor: Dr. Umer Janjua, 2019
- [13]. Ifra Nisar, Advisor: Dr. Saeed Ul Hasan, 2019
- [14]. Mehr Un Nisa Khalid, Advisor: Dr. Saeed Ul Hasan, 2019
- [15]. Mughees Mehdi, Advisor: Dr. Saeed Ul Hasan, 2019
- [16]. Muhammad Asad Manzoor, Advisor: Dr. Saeed Ul Hasan, 2019
- [17]. Muhammad Kamran, Future price prediction of stocks using historical, reserves and social data, Advisor: Dr. Mudassir Shabbir, 2019
- [18]. Muhammad Kashif Afzal, Advisor: Dr. Saeed Ul Hasan, 2019
- [19]. Muhammad Sufian Aslam, Emotion detection from text using emojis, Advisor: Dr. Maryam Mustafa, 2019
- [20]. Muhammad Wasif, Understanding Students' Learning Behavior and Predicting their Performance, Advisor: Dr. Saeed Ul Hasan, 2019
- [21]. Naila Akbar, Advisor: Dr. Saeed Ul Hasan, 2019
- [22]. Nasim Fatima, Digital TB Box: A Digital Tool to Improve Medicine Adherence of Tuberculosis (TB) Patients, Advisor: Ms. Amna Batool, 2019
- [23]. Naveed Ahmad, Advisor: Amna Batool, 2019
- [24]. Nick Chibuye, the University of Cape Town, South Africa, Using question-specific vocabularies to support speech data collection with SALAAM , Advisor: Dr. Brian DeRenzi, Dr T Rosenstock, and A/Prof H Suleman, 2019
- [25]. Tauseef Anjum, Speaker Recognition, Advisor: Dr. Suleman Mazhar, 2019
- [26]. Adil Nisar Khan, Detection and Mitigation of Antisocial Behavior on Twitter Through Browser Extension, Advisor: Dr. Junaid Qadir, 2018
- [27]. Afsheen Razaqat Ali, Vision and sentiments, Advisor: Dr. Mohsen Ali, 2018

- [28]. Hafsa Batool, Advisor: Dr. Saeed Ul Hasan, 2018
- [29]. Mehak Munawer, An Investigation on the loss of Urdu lexemes due to bilingualism, Kinnaird College for Women, 2018
- [30]. Muhammad Junaid Pahat, Advisor: Dr. Saeed Ul Hasan, 2018
- [31]. Munaza Afzal, Advisor: Dr. Saeed Ul Hasan, 2018
- [32]. Rabbia Zulfiqar, Rhetorical Composition of Malala's Nobel Lecture (2014): A Rhetorical Discourse Analysis, Kinnaird College for Women, 2018
- [33]. Rabia Rafique, Topic Aware End-to-End Trainable Dialogue Generation with Attention Mechanism, Advisor: Dr. Zubair Malik, 2018
- [34]. Rutaba Niazi, Advisor: Dr. Saeed Ul Hasan, 2018
- [35]. Salman Ahmed, Advisor: Dr. Saeed Ul Hasan, 2018
- [36]. Sara Ijaz, The Impact of social media slangs on the academic writing of students, Kinnaird College for Women, 2018
- [37]. Shafaq Malik, Advisor: Dr. Saeed Ul Hasan, 2018
- [38]. Sheeba Daniel, Political Discourse Analysis of Donald Trump's Speech, Kinnaird College for Women, 2018
- [39]. Syyab Bin Abdul Khaliq Rahi, Automatic citation classification, Advisor: Dr. Saeed Ul Hasan, 2018
- [40]. Umar Majeed Rana, Advisor: Dr. Saeed Ul Hasan, 2018
- [41]. Unaiza Nadeem, A critical discourse analysis of the Portrayal of social taboos in Pakistani television dramas, Kinnaird College for Women, 2018
- [42]. Usman Ahmed, Advisor: Dr. Saeed Ul Hasan, 2018
- [43]. Usman Iqbal Tarar, Advisor: Dr. Saeed Ul Hasan, 2018
- [44]. Zainab Mahmood, Sentiment Analysis of Urdu Language Using Recurrent Convolutional Neural Networks, Advisor: Ms. Amna Batool, 2018
- [45]. Adila Shauket, An Adaptive Personalized Learning System Based On User Learning Styles, Advisor: Amna Batool, 2017
- [46]. Rab Nawaz, Evaluation Of Video Based Learning Tool For School Students, Advisor: Dr. Ashraf Iqbal, 2017
- [47]. Usama Bin Shakeel, Interactive learning through Mobile Devices for Kids, Advisor: Dr. Mohsen Ali, 2017
- [48]. Ambreen Ilyas, IT for education, Advisor: Dr. Ashraf Iqbal, 2016
- [49]. Fatima Yousaf, Speaker Identification system in Urdu speech, Advisor: Dr. Samia Razzaq Khan, 2016
- [50]. Hamid Ali, A mobility system for the blind, Advisor: Mr. Mustafa Naseem, 2016
- [51]. Humza Riaz, Interactive Learning System: Instant Feedback and Pedagogy Integration for Improved Learning, Advisor: Dr. Ashraf Iqbal, 2016
- [52]. Muhammad Waseem Rasool, Designing Smart Phone Application for Mosque Donation to Enhance the Transparency, Advisor: Amna Batool, 2016
- [53]. Nimra Idrees, Advisor: Dr. Saeed Ul Hasan, 2016
- [54]. Sehrish Iqbal, Advisor: Dr. Saeed Ul Hasan, 2016
- [55]. Umair Ali, Advisor: Dr. Saeed Ul Hasan, 2016
- [56]. Umar Shehzad, Advisor: Dr. Ashraf Iqbal, 2016
- [57]. Zainab Ishfaq, Advisor: Dr. Ashraf Iqbal, 2016

#### **Research Assistants, Research Associates, and Program Managers <sup>PM</sup>**

- [1]. Sacha St Onge Ahmad<sup>PM</sup>, 2016 – 2019
- [2]. Ali Gibran<sup>PM</sup>, 2015 – 2016
- [3]. Rizwan Naru<sup>PM</sup>, 2015 – 2016
- [4]. Amna Raja<sup>PM</sup>, 2017 – 2018

- [5]. Behzad Taimoor<sup>PM</sup>, 2019 – 2022
- [6]. Syed Hadeed Hasan<sup>PM</sup>, 2022 – Now
- [7]. Haris Bin Zia, 2018 – 2020
- [8]. Bilal Saleem, 2015 – 2018
- [9]. Zain Tariq, 2016 – 2018
- [10]. Namooos Hayat Qasmi, 2020 – Now
- [11]. Shan Randhawa, 2015 – 2019
- [12]. Hira Yasin Damyal, 2021 – 2022
- [13]. Hira Ejaz, 2016 – 2019
- [14]. Abdullah Sabri, 2015 – Now
- [15]. Mukhtar Ahmad, 2016 – Now
- [16]. Tallal Ahmad Alvi, 2020 – 2022
- [17]. Fareeda Nawaz, 2020 – 2021
- [18]. Moughees Ahmad, 2020 – 2022
- [19]. Taimoor Arif, 2021 – 2022
- [20]. Fizzah Malik, 2019 – 2021
- [21]. Zeeshan Ahmad, 2017 – 2019
- [22]. Mehroze Zahid, 2017 – 2018
- [23]. Aneesa Abbassi, 2018 – 2019
- [24]. Rauf Tabassam, 2020 – 2021
- [25]. Usama Tayyab, 2019
- [26]. Zeeshan Nasr, 2018 – 2020
- [27]. Faraz Ahmad, 2015 – 2016

#### **Placements of Students, RAs, and Program Managers**

- [1]. Sacha St Onge Ahmad (program manager, RA) is pursuing a [PhD in Public Health at the University of Maryland, USA](#).
- [2]. Ali Gibran (program manager) is a [Director of Strategy at AmaliTech Services GmbH, Cologne, North Rhine-Westphalia, Germany](#).
- [3]. Amna Raja (program manager) is [Sponsored Projects Officer at Children's Hospital of Philadelphia, Philadelphia, Pennsylvania, USA](#).
- [4]. Behzad Taimoor (program manager) is a [Program Manager at the Centre for Economic Research in Pakistan \(CERP\)](#).
- [5]. Haris Bin Zia (student, RA) is pursuing a [PhD in NLP at the Queen Mary University of London, UK](#).
- [6]. Bilal Saleem (RA) is pursuing a [PhD in Computer Science at the University of Purdue, USA](#).
- [7]. Zain Tariq (RA) is pursuing a [PhD in Informatics at Penn State University, USA](#).
- [8]. Shan Randhawa (RA) is pursuing a [PhD in Information Sciences at the University of Michigan, Ann Arbor, USA](#)
- [9]. Hira Yasin Damyal (RA) is pursuing a [PhD in Language Technologies at CMU, USA](#).
- [10]. Amna Batool (student, RA) is a [Lecturer of Computer Science at NUCES, FAST, Lahore](#).
- [11]. Hira Ejaz (RA) is a [Lecturer of Linguistics at the University of Lahore](#).
- [12]. Taimoor Arif (student, RA) is pursuing an [MS in Machine Learning at the University of Michigan, Ann Arbor, USA](#).
- [13]. Lubna Razzak Khan (program manager) is a [PhD student at the Dept of Human Centered Design & Engineering, University of Washington, Seattle, USA](#).

- [14]. Tallal Ahmad Alvi (RA) is pursuing a [PhD at the University of Wisconsin-Madison, USA](#).
- [15]. Fareeda Nawaz (student, RA) is a [Business Analyst at Techlogix, Pakistan](#).
- [16]. Moughees Ahmad (student, RA) works at [Column Inc, NYC, USA](#).
- [17]. Fizzah Malik (RA) is a [Research Associate at the Centre for Economic Research in Pakistan \(CERP\)](#).
- [18]. Zeeshan Ahmad (program manager) is a product manager at [AmaliTech Services GmbH, Cologne, North Rhine-Westphalia, Germany](#).
- [19]. Aneesa Abbassi (RA) is a [Data Scientist at Unilever, Eindhoven, The Netherlands](#).
- [20]. Rauf Tabassam (RA) is a [Technical Content Engineer at Educative Inc., Pakistan](#).
- [21]. Momin Mehmood Butt (student, intern) got admitted to the [MS Data Science and AI program at Saarland University, Germany](#).
- [22]. Muhammad Sabeeh Rehman (student) got admitted to the [MS Data Science and AI program at Saarland University, Germany](#).
- [23]. Danyal Maqbool (student, RA) has been accepted in the [MS programs at Virginia Tech. and a funded MS leading to Ph.D. program at the University of Wisconsin-Madison](#).
- [24]. Naima Abrar Shami (student, research intern) has been admitted to the [Ph.D. program at Virginia Tech, USA](#).
- [25]. Muhammad Musa (student, research intern) has been admitted to [a funded MS and PhD programs at the University of Wisconsin Madison, USA](#).
- [26]. Shumail Sajjad (student, research intern) has been admitted to MS programs at [Columbia, CMU \(funded\), and London School of Economics](#).
- [27]. Ajwa Shahid (student, research intern) has been admitted to MS programs at the [University of Virginia, Vanderbilt University \(funded\), and Rutgers University–Camden](#).
- [28]. Sheza Munir (student, research intern) has been admitted to a [funded MS in Information Science and Health at the University of Michigan \(Ann Arbor\)](#).
- [29]. Mohammad Furqan Lodhi (student) has been admitted to a [funded MS program at the Technical University of Munich](#).
- [30]. Muhammad Taha (student, research intern) has been admitted to [funded MS program at Purdue](#).
- [31]. Sharjeel Ahmed Shaikh (student, research intern) has been admitted to [MS programs at Purdue, Northwestern, and the University of Iowa](#).
- [32]. Haashim Ali Mirza (student, research intern) has been admitted to a [funded MS program at the University of Michigan, Ann Arbor](#).
- [33]. Esha Fatima (student, research intern) has been admitted to [MS programs at the University of Washington, New York University, Boston University, and Trinity College Dublin](#).
- [34]. Mutahar Ali (student, research intern) has been admitted to [MS programs at the University of Virginia, the University of Arizona, and the University of Iowa](#).
- [35]. Sualeha Farid (student, research intern) has been admitted to a [funded MS program at Virginia Tech](#).
- [36]. Fahad Touseef (student, research intern) has been admitted to a [funded MS leading to Ph.D. program at the University of Wisconsin-Madison](#).
- [37]. Laila Sameer (student, research intern) has been admitted to the [MS program at the University of Michigan, Ann Arbor, and a funded MS program at Purdue](#).
- [38]. Syed Ahmed Taimoor (student, research intern) has been admitted to [MS programs at the North Carolina State University, the University of Central Florida, and the University of Colorado Boulder](#).
- [39]. Ahmad Mahmood (student, research intern) has been admitted to [MS programs at Oxford, and ETH Zurich](#).
- [40]. Muhammad Taha (student, research intern) has been admitted to the [MS program, at Purdue](#).
- [41]. Emaan Mujahid (student, research intern) has been admitted to [MS programs at Carnegie Mellon University, UIUC, and the University of Southern California](#).

## Undergraduate Advisement (Senior Projects, Internships, Semester-long Directed Research Projects)

**Note:** Most of these students worked with me in multiple roles over multiple semesters

[1]. Jawad Azhar Choudhary <sup>Sproj</sup> , 2023, LUMS	[50]. Rafey Rana, 2023, LUMS	[97]. Naima Abrar Shami, 2022, LUMS
[2]. Mahwish Aleem <sup>Sproj</sup> , 2023, LUMS	[51]. Saad Akbar Sheikh, 2023, LUMS	[98]. Nauman Ijaz Chaudhry, 2022, LUMS
[3]. Abdul Muizz Khan <sup>Sproj</sup> , 2023, LUMS	[52]. Saad Hasan Iqbal, 2023, LUMS	[99]. Raja Muhammad Shayan, 2022, LUMS
[4]. Ibrahim Moazzam <sup>Sproj</sup> , 2023, LUMS	[53]. Saad Raza, 2023, LUMS	[100]. Saad Sher Alam, 2022, LUMS
[5]. Moaiz Abrar <sup>Sproj</sup> , 2023, LUMS	[54]. Shabbir Hussain, 2023, LUMS	[101]. Shabbir Hussain, 2022, LUMS
[6]. Taimur Hassan Sarmad <sup>Sproj</sup> , 2023, LUMS	[55]. Shafay Kashif, 2023, LUMS	[102]. Sharjeel Ahmed Shaikh, 2022, LUMS
[7]. Ahmad Mahmood <sup>Sproj</sup> , 2023, LUMS	[56]. Syeda Mah Noor Asad, 2023, LUMS	[103]. Shumail Sajjad, 2022, LUMS
[8]. Fahad Touseef <sup>Sproj</sup> , 2023, LUMS	[57]. Taimur Salman, 2023, LUMS	[104]. Syed Ahmed Taimoor, 2022, LUMS
[9]. Haashim Mirza <sup>Sproj</sup> , 2023, LUMS	[58]. Umar Saeed Cheema, 2023, LUMS	[105]. Talha Abrar, 2022, LUMS
[10]. Imama Zahoor <sup>Sproj</sup> , 2023, LUMS	[59]. Wjeeh Ul Azeem, 2023, LUMS	[106]. Waleed Arshad, 2022, LUMS
[11]. Ajwa Shahid <sup>Sproj</sup> , 2023, LUMS	[60]. Zain Ali Khokhar, 2023, LUMS	[107]. Zoha Khan, 2022, LUMS
[12]. Danyal Maqbool <sup>Sproj</sup> , 2023, LUMS	[61]. Alina Faisal, 2023, LUMS	[108]. Humaira Fasih Ahmed, 2022, LUMS
[13]. Emaan Abbas <sup>Sproj</sup> , 2023, LUMS	[62]. Mustafa Ali Mirza, 2023, LUMS	[109]. Hussain Moatsim, 2022, LUMS
[14]. Esha Fatima <sup>Sproj</sup> , 2023, LUMS	[63]. Mutahar Ali, 2023, LUMS	[110]. Muhammad Musa, 2022, LUMS
[15]. Mohammad Taha Zakir <sup>Sproj</sup> , 2023, LUMS	[64]. Taha -, 2023, LUMS	[111]. Saood Ahmad Bilal, 2022, LUMS
[16]. Mukeet Raza <sup>Sproj</sup> , 2023, LUMS	[65]. Wassay Sajjad, 2023, LUMS	[112]. Sheharyar Khalid, 2022, LUMS
[17]. Samee Arif <sup>Sproj</sup> , 2023, LUMS	[66]. Zohaib Khan, 2023, LUMS	[113]. Suleman Mahmood, 2022, LUMS
[18]. Sheza Munir <sup>Sproj</sup> , 2023, LUMS	[67]. Fatima Sohail, 2023, LUMS	[114]. Dania Ahmad, 2021, LUMS
[19]. Sualeha Farid <sup>Sproj</sup> , 2023, LUMS	[68]. Muhammad Taha, 2023, LUMS	[115]. Dilkasha Tarannum, 2021, LUMS
[20]. Iman Aleem <sup>Sproj</sup> , 2021, LUMS	[69]. Haroon Khawaja, 2023, LUMS	[116]. Laila Sameer Dodhy, 2021, LUMS
[21]. Muhammad Ali Shahzad <sup>Sproj</sup> , 2021, LUMS	[70]. Muhammad Danyal Malik, 2023, LUMS	[117]. Muhammad Haris Noor, 2021, LUMS
[22]. Muhammad Saad Bin Waqas <sup>Sproj</sup> , 2021, LUMS	[71]. Huzaifa Ahmad, 2023, LUMS	[118]. Muhammad Haseeb Chaudhry, 2021, LUMS
[23]. Taimoor Arif <sup>Sproj</sup> , 2021, LUMS	[72]. Warda Jamil, 2023, LUMS	[119]. Muhammad Hassan Athar, 2021, LUMS
[24]. Aleena Haider <sup>Sproj</sup> , 2019, ITU	[73]. Maham Ahmed Bhimra, 2023, LUMS	[120]. Muhammad Hassan Mahad, 2021, LUMS
[25]. Muhammad Usama <sup>Sproj</sup> , 2019, ITU	[74]. Amaan Ahmed, 2023, LUMS	[121]. Muhammad Nouman Abbasi, 2021, LUMS
[26]. Usama Imtiaz <sup>Sproj</sup> , 2019, ITU	[75]. Muhammad Shayan, 2023, LUMS	[122]. Rumaisa Habib, 2021, LUMS
[27]. Mirza Raza <sup>Sproj</sup> , 2018, ITU	[76]. Muhammad Saad Haroon, 2023, LUMS	[123]. Taha Asim, 2021, LUMS
[28]. Mobeen Ahmad <sup>Sproj</sup> , 2018, ITU	[77]. Hassan Adnan, 2023, LUMS	[124]. Taha Razzaq, 2021, LUMS
[29]. Ahad Nadeem <sup>Sproj</sup> , 2018, ITU	[78]. Maryam Usman, 2023, LUMS	[125]. Momin Mehmood Butt, 2021, LUMS
[30]. Bilal Hafeez <sup>Sproj</sup> , 2018, ITU	[79]. Muhammad Ibrahim Farrukh, 2023, LUMS	
[31]. Mamoona Riaz <sup>Sproj</sup> , 2018, ITU	[80]. Shayan Ali Hassan, 2023, LUMS	
[32]. Muhammad Ahmad Ehsan <sup>Sproj</sup> , 2018, ITU	[81]. Muhammad Muneeb Ahmad, 2023, LUMS	
[33]. Hira Ijaz <sup>Sproj</sup> , 2018, ITU	[82]. Mustafa Abbas, 2023, LUMS	

[34]. Tania Saleem <sup>Sproj</sup> , 2018, ITU	[83]. Daanish Uddin Khan, 2023, LUMS	[126]. Muhammad Usama Saleem, 2020, LUMS
[35]. Hassnain Khaliq <sup>Sproj</sup> , 2018, ITU	[84]. Aashish Jai, 2022, LUMS	[127]. Muhammad Ahmad Ehsan, 2018, ITU
[36]. Muhammad Hamza <sup>Sproj</sup> , 2018, ITU	[85]. Ahsan Amin, 2022, LUMS	[128]. Hassnain Khaliq, 2018, ITU
[37]. Ahad Imran, 2023, LUMS	[86]. Behroz Karim, 2022, LUMS	[129]. Muhammad Hamza, 2018, ITU
[38]. Arooba Maqsood, 2023, LUMS	[87]. Daim Armaghan, 2022, LUMS	[130]. Tania Saleem, 2018, ITU
[39]. Ayza Shuja, 2023, LUMS	[88]. Farva Talib, 2022, LUMS	[131]. Hira Akram, 2018, ITU
[40]. Eimaan Saqib, 2023, LUMS	[89]. Hisan Naeem, 2022, LUMS	
[41]. Fatima Ali, 2023, LUMS	[90]. Mohammad Mubashir, 2022, LUMS	
[42]. Haris Asghar, 2023, LUMS	[91]. Muhammad Abdullah Soomro, 2022, LUMS	
[43]. Mariam Tauqeer, 2023, LUMS	[92]. Muhammad Hassnain, 2022, LUMS	
[44]. Mohtashim Butt, 2023, LUMS	[93]. Muhammad Khizer Sadiq, 2022, LUMS	
[45]. Muawiz Feroze Khan, 2023, LUMS	[94]. Muhammad Nameer Anjum, 2022, LUMS	
[46]. Muhammad Umar Ramzan, 2023, LUMS	[95]. Muhammad Soomro, 2022, LUMS	
[47]. Muhammad Hamza, 2023, LUMS	[96]. Muhammad Sufyaan Ghori, 2022, LUMS	
[48]. Muhammad Shahmeer, 2023, LUMS		
[49]. Omer Kamran, 2023, LUMS		

<sup>i</sup> LREC/LRE are the choice venues for sharing datasets in Speech and Language Processing.

<sup>ii</sup> ICTD, and ACM DEV (Now COMPASS) are the top publication venues in the domain of Information and Communication Technologies for Development.