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Last updated: Tuesday, June 23, 2026

[Google Scholar](#) · [ORCID](#) · [DBLP](#) · [ACL Anthology](#) · [Semantic Scholar](#) · [LinkedIn](#)

Research Interests and Bio

My work bridges cutting-edge AI with social impact. I research [Speech & Natural Language Processing \(NLP\)](#), [Machine Learning](#), [Speech-based Human-Computer Interaction](#), and [Information & Communication Technologies for Development \(ICT4D\)](#), with the overarching goal of empowering under-connected and under-served populations, particularly those who are low-literate, low-income, visually impaired, geographically remote, or linguistically marginalized. My work integrates practical deployments at scale (e.g., Polly, Super Abbu, Baang)—which have reached over 300,000 users in [Pakistan](#), [India](#), and [West Africa](#)—and academic contributions (papers at CHI, ACL, EMNLP, etc.), creating significant [social, health, and economic impact](#). I aim to [democratize AI](#) for real-world social impact, bridging the digital divide while proactively mitigating harm such as [misinformation](#) and [deepfakes](#). As the Speech & Language Technologies Vertical Lead of Pakistan's Gates Foundation-funded National AI Hub, I am building production-grade speech recognition, text-to-speech, machine translation, and medically contextualized large language models for Urdu, Punjabi, Sindhi, Balochi, and Pashto in maternal, newborn, and child health (MNCH) contexts. Through innovations such as Urdu text-to-speech and speech-to-text systems, spoken term detection, speech emotion identification, voice biometrics, and audio deepfake detection, I tailor AI for resource-constrained settings, employing novel speech and language dataset creation methods and techniques like supervised and unsupervised pruning, as well as active learning, to make large-scale data processing feasible, especially for [resource-constrained languages](#). In parallel to my research endeavors, I have taken a leadership role in [demystifying generative AI](#) via comprehensive training and workshops, enabling professionals from diverse backgrounds to integrate AI productively and ethically into their work. I've successfully trained [250+ faculty and staff](#), [200 doctors](#), [30 PhD students](#), and [more than 700 professionals](#) across 95+ workshops, including leaders at LUMS, Mercy Health (USA), Mobilink Bank, Nishat Chunian Ltd., SNGPL, Faysal Bank, Engro, Rousch (Pakistan) Power Limited (RPPL), PMCL, Jazz, SECPL, OGDCL, Pakistan State Oil (PSO), and Parco Gunvor Limited, addressing AI's capabilities, limitations, and ethical considerations. These courses, workshops, and media engagements cover AI's affordances, limitations, ethics, and strategies for practical implementation, empowering diverse audiences to develop accurate mental models and integrate AI effectively into their workflows, setting a benchmark for proactive, interdisciplinary professional development. Ultimately, I strive to [create a safe, inclusive, accessible, and equitable digital world that provides everyone with a fair opportunity to thrive](#).

Professional Experience

- Lahore University of Management Sciences (LUMS), Lahore, Pakistan** *Jan 2020 – now*
 - Tenured Associate Professor of Computer Science, School of Science and Engineering (Oct 2024 – now)
 - Assistant Professor of Computer Science, School of Science and Engineering (SBASSE) (Jan 2020 – Sep 2024)
 - Founding Director of CSaLT (The Center for Speech and Language Technologies)
 - Lead, Speech & Language Technologies Vertical, National AI Hub for MNCH, Pakistan (Gates Foundation-funded, 2026 – 2029)
 - 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

Entrepreneurial Experience

- Co-founder & AI Lead (2023 – Present) ActualAIz, Inc., Pakistan**

A custom AI solutions company providing tailored Generative AI systems, intelligent EdTech platforms, AI-powered spoken and written English assessments, and high-quality data curation services for B2B and B2C clients.
- Co-founder & AI Lead (2025 – Present), Plus1MD, Australia**

A health-tech startup developing a next-generation AI medical scribe that provides real-time, multilingual transcription of patient consultations and automatically generates accurate, structured clinical (SOAP) notes to reduce physician busywork.

Education

Ph.D. in Computer Science (Language Technologies, i.e., AI for Language)

May 2015

[Language Technologies Institute \(LTI\)](#) at [Carnegie Mellon University](#), Pittsburgh, PA, USA

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

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

Dissertation Committee: Jaime Carbonell (Professor and Director, Language Technologies Institute, CMU), Bill Thies (Microsoft Research India), 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*

Featured Talks and Guest Lectures

- [TEDx talk](#) at Beaconhouse College Program (BCP), Lahore, on “Democratizing AI Safety: Inclusive NLP for a Multilingual World.”
- [Keynote speech](#) on “Demystifying Generative AI” at the Research Assembly titled: “Next Gen Med: Shaping the Future of Clinical Research” at the Shalamar Institute of Health Sciences, Lahore, Pakistan.
- [Keynote speech](#) on “Demystifying Generative AI” at the 58th Asia Pacific Advanced Network (APAN) Meeting, Islamabad, Pakistan.
- [TEDx talk](#) at FAST, National University, Lahore, on “The Power of Manifestation,” focusing on “Voice-based Social Media Platforms for the Under-connected Populations”
- [TEDx talk](#) at Aitchison College on “Giving Back,” focusing on “Voice-based Information and Communication Services for Marginalized Tech-naïve Populations.”
- Invited talk at [Microsoft Research India \(MSRI\)](#) at Lab Sabha.
- Independence Day talk at [Meta \(Facebook\)](#).
- Guest lecture in the Computing and Global Development class at [Cornell University, Ithaca, NY](#).
- 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 Global Health Messages: Understanding Exposure and Impact class.
- 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.](#)
- Five-day intense training on “Harnessing Transformers, LLMs and Multi-agent Systems for Cutting-edge AI Solutions” for [ACES Private Limited](#), Pakistan.
- Invited talk on the Viral Spread of COVID-19 Information using an IVR Social Platform at [Google, Mountain View, CA, USA](#).
- Invited panel discussion in the Human-Computer Interaction (HCI) class 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 the Virality of mobile-based speech services and dissemination of development-related information to low-literate masses](#).

Selected Deployed Systems & Innovations

(Collectively raised over **USD 1.6 million** in external research funding and impacted **300,000+** users in Pakistan, India, and West Africa.)

Polly

- An IVR (Interactive Voice Response) platform that lets users record and modify their voices using entertaining “funny” filters, then share them with friends.
- **Scale & Reach:** Grew virally from 5 seed users to **165,000** unique users within one year. Users listened to over **386,000** job-related audio ads, connecting **34,000** job seekers to potential opportunities.
- **Impact & Recognition:** Awarded **Best Paper** at ACM CHI; featured by **NPR**, MIT Technology Review, and multiple international media outlets. Received **1 million euros** from GIZ to expand job and skill training access.

Super Abbu

- A voice-based maternal-health hotline targeting low-literate expectant fathers—culturally the primary decision-makers in many Pakistani households.
- **Scale & Reach:** In just two months, recorded **32,625** calls from **21,770** users (96% men), illustrating strong demand for discreet and culturally sensitive health information.
- **Impact & Recognition:** Supported by **UNICEF Innovations Fund** and **NIH (USA)**. Earned **Honorable Mention** at CHI 2020. Featured by BBC Urdu, Michigan News, and multiple Pakistani news channels.

Sawaal

- A gamified IVR quiz system for identifying community knowledge gaps, delivering targeted educational audio snippets, and measuring retention.
- **Scale & Reach:** Fosters collaborative learning in low-literate populations; has shown strong user engagement and retention through fun, competition-based quizzes.
- **Impact:** Deployed to rapidly measure baseline knowledge in under-connected communities and then disseminate crucial information (e.g., health, development).

Baang

- A fully voice-based social media platform accessible via simple phones, empowering diverse communities (including visually impaired and low-educated individuals) to share audio posts, comment, and vote.
- **Scale & Reach:** Organically spread to thousands of users with no airtime subsidy. During COVID-19, **44%** of active users proactively sought health information on Baang.
- **Impact:** Facilitates large-scale public-information campaigns and user-driven content moderation; adapted for pandemic-related awareness efforts.

Karamad

- A voice-based crowdsourcing platform allowing low-resource workers to complete tasks via basic phones—no internet or smartphones required.
- **Scale & Reach:** In a 6-month pilot with zero advertising, **725** workers completed **3,939** tasks (43,000+ micro-questions). Each user earned on average **PKR 637** while covering their own airtime.
- **Impact:** Showcases a financially **sustainable** model of paid crowd work for underemployed or visually impaired populations; published at ACM CHI 2021.

Urdu ASR & Localization Tools

- Foundational resources for Pakistani languages, including the **first medium-vocabulary Automatic Speech Recognition** system for spontaneous Urdu; a word-segmentation tool (**Urdu Word Segmentation**); an unsupervised lexical text simplification tool (**SimplifyUR**); and a pronunciation lexicon generator (**PronouncUR**).
- **Impact:** Widely used by academics and industry for Urdu NLP; covered by Dawn News, MIT Tech Review Pakistan, etc.

Mehr-e-Nastaliq Font

- The **first** calligraphy-based OpenType Urdu font optimized for the web (under **110 KB**).
- **Impact:** Featured by Geo News, Dawn, Jang, and other outlets. Provides high-quality digital typography for Urdu across diverse web platforms.

Audio Deepfake Detection

- Novel methods (e.g., “microfeatures” and phoneme-level attention) to detect synthetic or “spoofed” audio with minimal computational resources.
- **Impact:** Achieved significant accuracy gains (up to **23%** relative improvement over existing approaches). Supported by **Facebook Research**, addresses critical misinformation threats in low digital-literacy communities.

Research Funding and Grants

- [1]. [Gates funded National AI Hub, Pakistan, 2026-2029](#), USD 4.2 Million, Agha Ali Raza (Lead, Speech and Language Technologies Vertical, Developing state-of-the-art, robust, and production-ready Speech and Language support for Urdu, Punjabi, Sindhi, Pashto, and Balochi, in the general health, MNCH and SRH contexts in Pakistan).
- [2]. [Google Research ExploreCSR Award 2023](#), USD 32,000, Agha Ali Raza (Co-PI), Ihsan Ayyub Qazi (Co-PI, Lahore University of Management Sciences, Pakistan), Ayesha Ali (Co-PI, Lahore University of Management Sciences, Pakistan), Zafar Ayyub Qazi (Co-PI, Lahore University of Management Sciences, Pakistan), Navigating the Computing Research Landscape Skills and Strategies for Aspiring Female Students, Jan 2023 – Jan 2024.
- [3]. [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.
- [4]. [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.
- [5]. [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.
- [6]. [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.
- [7]. [National Academies of Sciences, Engineering, Medicine, Keck Futures Initiative \(NAKFI\), USD 500,000](#), Agha Ali Raza (Pakistan-side PI), Kentaro Toyama (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.
- [8]. [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.
- [9]. [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.
- [10]. [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.
- [11]. [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.
- [12]. [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.

Honors and Awards

- LUMS, Vice Chancellor's Award for Teaching Excellence 2023-24
- FAST – National University, Alumni Achievement Award 2024
- 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 FAST – National University, Lahore

Publications

Note: Publications are grouped by research theme; within each theme they appear in reverse-chronological order, and my name is shown in bold. A continuously updated list is available on [my Google Scholar profile](#).

Speech Processing, Recognition, and Audio Security

- [1]. **Conference:** Abdul Hameed Azeemi, Ihsan Ayyub Qazi, Maryam Mustafa, **Agha Ali Raza**, *Dissecting ASR Failures in Low-Resource South Asian Languages*. In the Proceedings of INTERSPEECH 2026.
- [2]. **Conference:** Samee Arif, Aamina Jamal Khan, Mustafa Abbas, Agha Ali Raza, Awais Athar, *WER We Stand: Benchmarking Urdu ASR Models*. In the Proceedings of the 31st International Conference on Computational Linguistics: COLING 2025, Abu Dhabi, UAE, January 19 – 24, 2025. (H5-index: 65)
- [3]. **Journal:** Nimra Zaheer, **Agha Ali Raza**, Mudassir Shabbir, *Conversations in the Wild: Data Collection, Automatic Generation and Evaluation*. Computer Speech & Language, Vol. 89, 101699, 2025.
- [4]. **Conference:** Sheza Munir, Wassay Sajjad, Mukeet Raza, Emaan Mujahid Abbas, Abdul Hameed Azeemi, Ihsan Ayyub Qazi, **Agha Ali Raza**, *Deepfake Defense: Constructing and Evaluating a Specialized Urdu Deepfake Audio Dataset*. In the Findings of the Meeting of the Association for Computational Linguistics: ACL 2024, Bangkok, Thailand, August 11–16, 2024. (Core: A*, H5-index: 215)
- [5]. **Journal:** Nimra Zaheer, Obaid Ullah Ahmad, Mudassir Shabbir, and **Agha Ali Raza**, *Speech Emotion Recognition for the Urdu Language*. Language Resources and Evaluation (LRE), 2023. (IF: 1.358, HJRS: JPI 33, Category X, Medallion Clay, Subject Area Position 3915 / 8089) ([link](#))
- [6]. **Conference:** Hira Dhamyal, 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](#))
- [7]. **Conference:** Hira Dhamyal, 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](#))
- [8]. **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](#))
- [9]. **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](#))
- [10]. **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](#))
- [11]. **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 the Proceedings of Frontiers of Information Technology (FIT) 2010, Islamabad, Pakistan.
- [12]. **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](#))

Natural Language Processing & Large Language Models for Low-Resource Languages

- [13]. **Journal:** Ihsan Ayyub Qazi, Zohaib Khan, Abdullah Ghani, **Agha Ali Raza**, Zafar Ayyub Qazi, Wassay Sajjad, Ayesha Ali, Asher Javaid, Muhammad Abdullah Sohail, Abdul H. Azeemi, *Large Language Models Show Dunning-Kruger-Like Effects in Multilingual Fact-Checking*, Scientific Reports, 16, 7594 (2026) (A Nature Portfolio Journal). 2026, <https://doi.org/10.1038/s41598-026-39046-w>.
- [14]. **Workshop:** Samee Arif, Muhammad Saad Haroon, Aamina Jamal Khan, Taimoor Arif, **Agha Ali Raza**, Awais Athar, *Kahaani: A Multimodal Co-Creative Storytelling System*. In the Proceedings of the EAACL 2026 Student Research Workshop, Rabat, Morocco.

- [15]. **Conference:** Abdullah Hashmat, Muhammad Arham Mirza, **Agha Ali Raza**, *PakBBQ: A Culturally Adapted Bias Benchmark for QA*. In the Main Conference of Empirical Methods in Natural Language Processing: [EMNLP 2025](#), Suzhou, China, November 5 to 9, 2025. (Core: A*, H5-index: 218)
- [16]. **Workshop:** Samee Arif, Sualeha Farid, Abdul Hameed Azeemi, Awais Athar, **Agha Ali Raza**, *The Fellowship of the LLMs: Multi-Model Workflows for Synthetic Preference Optimization Dataset Generation*. In the Proceedings of the GEM² Workshop at ACL 2025.
- [17]. **Journal:** Hafiz Rizwan Iqbal, Muhammad Sharjeel, Jawad Shafi, Usama Mehmood, **Agha Ali Raza**, *Urdu Sentential Paraphrased Plagiarism Detection Using Large Language Models*. ACM Transactions on Asian and Low-Resource Language Information Processing (TALLIP), Vol. 24, No. 9, Article 96, 2025.
- [18]. **Journal:** Hafiz Rizwan Iqbal, Muhammad Sharjeel, Jawad Shafi, Usama Mehmood, Saeed-Ul Hassan, **Agha Ali Raza**, *Urdu Paraphrased Text Reuse and Plagiarism Detection Using Pre-trained Large Language Models and Deep Hybrid Neural Networks*. Multimedia Tools and Applications, Vol. 84, No. 35, pp. 43475–43497, 2025.
- [19]. **Conference:** Samee Arif, Abdul Hameed Azeemi, **Agha Ali Raza**, Awais Athar, *Generalists vs. Specialists: Evaluating Large Language Models for Urdu*. In the Findings of Empirical Methods in Natural Language Processing: [EMNLP 2024](#), Miami, Florida, USA, November 12–16, 2024. (Core: A*, H5-index: 193)
- [20]. **Conference:** Samee Arif, Sualeha Farid, Awais Athar, and **Agha Ali Raza**, *UQA: Corpus for Urdu Question Answering*. In [LREC-COLING 2024](#) – Joint International Conference on Computational Linguistics, Language Resources and Evaluation. May 20-25, 2024, Torino (Italia). (H5-index: 65)
- [21]. **Workshop:** Abdul Basit, Abdul Hameed Azeemi, **Agha Ali Raza**, *Challenges in Urdu Machine Translation*. In the Proceedings of the Seventh Workshop on Technologies for Machine Translation of Low-Resource Languages (LoResMT) at ACL 2024, Bangkok, Thailand.
- [22]. **Journal:** Hafiz Rizwan Iqbal, Rashad Maqsood, **Agha Ali Raza**, Saeed-Ul Hassan, *Urdu Paraphrase Detection: A Novel DNN-based Implementation Using a Semi-Automatically Generated Corpus*. Natural Language Engineering, Vol. 30, No. 2, pp. 354–384, 2024.
- [23]. **Conference:** Namoos Hayat Qasmi, 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. ([link](#))
- [24]. **Conference:** Haris Bin Zia, **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:** Haris Bin Zia, **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. ([link](#))
- [26]. **Conference:** **Agha Ali Raza**, Awais Athar, Sajid Nadeem, *N-Gram Based Authorship Attribution in Urdu Poetry*. In the Proceedings of the Conference on Language and Technology (CLT) 2009, Lahore, Pakistan.

Efficient Machine Learning: Data Selection, Pruning, Active & Federated Learning

- [27]. **Conference:** Abdul Hameed Azeemi, Ihsan Ayyub Qazi, and **Agha Ali Raza**. 2026. [Language Model-Driven Data Pruning Enables Efficient Active Learning](#). In Findings of the Association for Computational Linguistics: [EACL 2026](#), pages 4373–4392, Rabat, Morocco. Association for Computational Linguistics.
- [28]. **Conference:** Abdul Hameed Azeemi, Ihsan Ayyub Qazi, **Agha Ali Raza**, *To Label or Not to Label: Hybrid Active Learning for Neural Machine Translation*, In the Proceedings of the 31st International Conference on Computational Linguistics: [COLING 2025](#), Abu Dhabi, UAE, January 19 – 24, 2025. (H5-index: 65)
- [29]. **Journal:** Abdul Hameed Azeemi, Ihsan Ayyub Qazi, **Agha Ali Raza**, *A Survey on Data Selection for Efficient Speech Processing*. IEEE Access, Vol. 13, pp. 109234–109253, 2025.

- [30]. **Conference:** Abdul Hameed Azeemi, Ihsan Ayyub Qazi, and **Agha Ali Raza**, *Data Pruning for Efficient Model Pruning in Neural Machine Translation*. In the Findings of the Association for Computational Linguistics: [EMNLP 2023](#), Dec 6 – 10, 2023, Singapore. (Core: A*, H5-index: 193)
- [31]. **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)
- [32]. **Conference:** Abdul Hameed Azeemi, 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)
- [33]. **Workshop:** Abdul Hameed Azeemi, Ihsan Ayyub Qazi, **Agha Ali Raza**, *Representative Subset Selection for Efficient Fine-Tuning in Self-Supervised Speech Recognition*. In the NeurIPS 2023 Workshop on Efficient Natural Language and Speech Processing (ENLSP), New Orleans, USA.
- [34]. **Conference:** Abdul Hameed Azeemi, 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](#))

Speech-Based Interfaces & ICT for Development (ICT4D)

- [35]. **Conference:** Shan M. Randhawa, 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](#))
- [36]. **Journal:** Muhammad Qasim, Haris Bin Zia, Awais Athar, Tania Habib, **Agha Ali Raza**, *Personalized Weather Information for Low-Literate Farmers Using Multimodal Dialog Systems*. International Journal of Speech Technology, Vol. 24, No. 2, pp. 455–471, 2021.
- [37]. **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: 22.7, HJRS: JPI 93, Category W, Medallion Platinum, Subject Area Position 57 / 1823) ([link](#))
- [38]. **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](#))
- [39]. **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](#))
- [40]. **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](#))
- [41]. **Conference:** Waleed Riaz, Haris Durrani, Suleman Shahid, **Agha Ali Raza**, *ICT Intervention for Agriculture Development: Designing an IVR System for Farmers in Pakistan*. In the Proceedings of the International Conference on Information and Communication Technologies and Development (ICTD) 2017, Lahore, Pakistan.
- [42]. **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. ([link](#))
- [43]. **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 the Proceedings of ACM DEV 2016, Nairobi, Kenya.

- [44]. **Workshop:** Nikolas Wolfe, Juneki Hong, **Agha Ali Raza**, Bhiksha Raj, Roni Rosenfeld, *Rapid Development of Public Health Education Systems in Low-Literacy Multilingual Environments: Combating Ebola Through Voice Messaging*. In the Proceedings of the ISCA Workshop on Speech and Language Technology in Education (SLaTE) 2015, Leipzig, Germany.
- [45]. **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](#))
- [46]. **Conference:** Haohan Wang, **Agha Ali Raza**, Yibin Lin, Roni Rosenfeld, *Behavior Analysis of Low-Literate Users of a Viral Speech-based Telephone Service*. In the Proceedings of ACM DEV 2013, Cape Town, South Africa.
- [47]. **Conference:** **Agha Ali Raza**, Farhan Ul Haq, Zain Tariq, Umar Saif, Roni Rosenfeld, *Spread and Sustainability: The Geography and Economics of Speech-Based Services*. In the Proceedings of ACM DEV 2013, Bangalore, India.
- [48]. **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. ([link](#))

HCI for Development: Health, Gender & Financial Inclusion

- [49]. **Journal:** Sarojini Hirshleifer, Mustafa Naseem, **Agha Ali Raza**, Arman Rezaee, *The spread of (mis)information: A social media experiment in Pakistan*, *Journal of Development Economics*, 2026, 103784, ISSN 0304-3878, <https://doi.org/10.1016/j.ideveco.2026.103784>. (<https://www.sciencedirect.com/science/article/pii/S0304387826000672>)
- [50]. **Conference:** Ali Saif, Mohammad Taha Zakir, **Agha Ali Raza**, Mustafa Naseem, *EvolveUI: User Interfaces that Evolve with User Proficiency*. In **ACM COMPASS 2024** – ACM SIGCAS & SIGCHI Computing and Sustainable Societies. July 8 - 11, 2024, IIIT-Delhi, India.
- [51]. **Conference:** Imama Zahoor, Shiza Ihtsham, Umar Ramzan, **Agha Ali Raza**, and Basmaa Ali, *AI-Driven Healthcare Delivery in Pakistan: A Framework for Systemic Improvement*. In **ACM COMPASS 2024** – ACM SIGCAS & SIGCHI Computing and Sustainable Societies. July 8 - 11, 2024, IIIT-Delhi, India.
- [52]. **Journal:** Ayesha Ali, **Agha Ali Raza**, Ihsan Ayyub Qazi, *Validated Digital Literacy Measures for Populations with Low Levels of Internet Experiences*. *Development Engineering*, Vol. 8, 100107, 2023.
- [53]. **Conference:** **Agha Ali Raza**, Mustafa Naseem, Namooos 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](#))
- [54]. **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](#))
- [55]. **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](#))
- [56]. **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: 22.7, HJRS: JPI 93, Category W, Medallion Platinum, Subject Area Position 57 / 1823) ([link](#))
- [57]. **Conference and Journal:** Hamid Mehmood, Tallal Ahmad, Lubna Razaq, Shirang Mare, Maryam Zafar Usmani, Richard Anderson, and **Agha Ali Raza**. 2019. *Towards Digitization of Collaborative Savings Among Low-Income Groups*. In Proceedings of

Data Mining, Information Networks & Applied Optimization

- [58]. **Journal:** Abinta Mehmood Mir, 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, Vol. 127, 107014, 2022.
- [59]. **Conference:** Yibin Lin, **Agha Ali Raza**, Jay-Yoon Lee, Danai Koutra, Roni Rosenfeld and Christos Faloutsos, *Influence Propagation: Patterns, Model and a Case Study*, in **PAKDD2014**, the 18th Pacific-Asia Conference on Knowledge Discovery and Data Mining, May 13-16, 2014, Tainan, Taiwan. (Core: A) ([link](#))

Book Chapters

- [60]. **Book Chapter:** Aditya Vashistha, **Agha Ali Raza**, *Voice Interfaces for Underserved Communities*. In An Introduction to Development Engineering, Springer, 2021.

Posters, Extended Abstracts & Symposium Papers

- [61]. **Poster:** Hira Ejaz, Syed Ali Hussain, **Agha Ali Raza**, *The Case for IVR-Based Citizen Journalism in Pakistan*. In the Adjunct Proceedings of MobileHCI 2018, Barcelona, Spain.
- [62]. **Symposium:** Hamid Mehmood, Lubna Razaq, Jennifer Webster, Amna Batool, Maryam Mustafa, **Agha Ali Raza**, Richard Anderson, *Save My Money: Digitizing Informal Savings in Pakistan*. HCI Across Borders (HCIXB) Symposium, CHI 2018.
- [63]. **Symposium:** Maryam Ayub, 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*. HCI Across Borders (HCIXB) Symposium, CHI 2018.
- [64]. **Symposium:** Sacha St-Onge Ahmad, 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*. HCI Across Borders (HCIXB) Symposium, CHI 2018.
- [65]. **Symposium:** Sacha St-Onge Ahmad, Mustafa Naseem, **Agha Ali Raza**, *Maternal Awareness for Low-Literate Expecting Parents via Voice-Based Telephone Services*. HCI Across Borders (HCIXB) Symposium, CHI 2017.
- [66]. **Symposium:** Abdullah Kharal, Mustafa Naseem, Sacha St-Onge Ahmad, **Agha Ali Raza**, *Sustainable IVR-Based Social Media for the Developing World*. HCI Across Borders (HCIXB) Symposium, CHI 2017.
- [67]. **Symposium:** Aditya Vashistha, **Agha Ali Raza**, Umar Saif, Roni Rosenfeld, Richard Anderson, *Changing Perceptions of Citizens of India and Pakistan*. HCI Across Borders Development Consortium, CHI 2016.

Early Work: Mathematics & Geometric Modeling

- [68]. **Conference:** **Agha Ali Raza**, Zulfiqar Habib, Manabu Sakai, *Interpolation with Rational Cubic Spirals*. In the Proceedings of the IEEE International Conference on Emerging Technologies (ICET) 2008, Rawalpindi, Pakistan.
- [69]. **Workshop:** **Agha Ali Raza**, Asma Zaib, Sana Altaf, Zulfiqar Habib, *On a Special Case of Path Planning*. In the Proceedings of the 7th CIIT Workshop on Research in Computing, 2008, Lahore, Pakistan.

Preprints & Manuscripts Under Review

- [70]. **Preprint:** Shan Randhawa, **Agha Ali Raza**, Kentaro Toyama, Julie Hui, Mustafa Naseem, *Empathy Applicability Modeling for General Health Queries*. arXiv:2601.09696, 2026 (under submission).
- [71]. **Preprint:** Zohaib Khan, Muhammad Khaquan, Omer Tafveez, Burhanuddin Samiwala, **Agha Ali Raza**, *Beyond Uniform Query Distribution: Key-Driven Grouped Query Attention*. arXiv:2408.08454, 2024.

Teaching Experience (Post Ph.D.)

Semester	Institute, Course Code, Title	Class Size	Instructor Eval Score (5.0)	Course Eval Score (5.0)
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Spring 2026	LUMS, CS5302, Foundations of Generative AI	155	4.60	4.54
Fall 2025	LUMS, CS331, Foundations of AI and Machine Learning	170	4.46	4.58
Fall 2025	LUMS, CS331, Foundations of AI and Machine Learning	134	4.27	4.18
Spring 2025	LUMS, CS5302, Foundations of Generative AI	114	4.40	4.26
Fall 2024	LUMS, CS535, Machine Learning – Section 1	130	4.26	4.15
Fall 2024	LUMS, CS535, Machine Learning – Section 2	130	4.33	4.12
Spring 2024	LUMS, CS5302, Foundations of Generative AI	130	4.56	4.48
Fall 2023	LUMS, CS535, Machine Learning	218	4.26	4.25
Fall 2023	LUMS, CS202, Data Structures	76	4.26	4.29
Spring 2023	LUMS, CS433, Speech Processing	18	4.62	4.29
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 [Foundations of AI and Machine Learning](#) (CS+EE, Ugrad) at LUMS and started teaching it in 2025.
- Designed the course of [Foundations of Generative AI](#) (CS+EE, Grad + Ugrad) at LUMS and taught it annually since 2024.
- 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 (course evaluations) have consistently and significantly exceeded departments' averages)

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

Teaching Philosophy & Approach

- **Core Objective:** Inspire students through an engaging environment that fosters curiosity and enthusiasm for learning, ensuring concepts and skills are retained and meaningfully applied long-term.
- **Accessibility & Inclusivity:** Tailor courses to varying skill levels (engineering, CS, social sciences), revisiting foundational concepts (e.g., basic math, probability) so that less-prepared students can still thrive. Emphasize local context and sometimes use Urdu examples for better relatability.
- **Intuitive + Rigorous + Applied:** Blend storytelling, hands-on demonstrations, and step-by-step derivations. Make complex theories (e.g., Bayes' Theorem, neural networks) approachable via relatable metaphors. Always reinforce with real-world projects or labs.

- **Frequent Assessments:** Use weekly quizzes, regular assignments, and scaffolded projects instead of one or two high-stakes exams. This ensures consistent engagement and steady learning progression.

Course Design & Innovations

- **Machine Learning (Grad+Ugrad)**
 - Transformed a small, under-enrolled ML course (20 students) into a **record 300+ enrollment** staple, open to juniors from diverse majors.
 - Balanced theory and application: Students acquire the intuition and mathematics behind ML while gaining hands-on skills in Python libraries and real-world datasets.
 - Maintains some of the **highest teaching evaluations** in the department (4.5+ out of 5).
- **Speech Processing / NLP**
 - Designed from scratch to serve **both** graduate research tracks and undergraduates interested in AI applications.
 - Incorporates live spectrogram demos, real-time transformations of recorded speech, and local-language datasets to spark excitement and deeper understanding.
- **Generative AI Workshops**
 - Developed a **comprehensive workshop series** on ChatGPT and Generative AI for diverse audiences (faculty, staff, professionals, civil servants).
 - **Trained 250+ faculty/staff, 200 doctors, 700+ professionals (>1,100 total participants)** across more than 95 workshops, covering everything from day-to-day workflow improvements to advanced AI ethics and governance.
 - Adapted modules for specific fields (humanities, business, STEM), ensuring broad relevance and hands-on practice.

Teaching Impact & Recognition

- **Vice Chancellor's Award for Teaching Excellence (2023–24)**
 - Honored for exceptional dedication, innovation in curriculum design, and transformative impact on student learning.
- **Consistently High Instructor Evaluations**
 - Evaluation scores frequently **exceed departmental averages**, with students praising clarity, passion, and real-world applications.
- **Workshop & Educational Leadership**
 - Organized AI/ML workshops for local professionals, faculty, and leadership teams.
 - Co-developed short courses on LUMSx, broadening the reach of high-quality AI/ML instruction across the region.

Mentorship & Community Outreach

- **Student Mentorship:**
 - Supervised **2 PhD students, 17 MS theses, 56 senior projects**, and mentored **100+** students on short-term research projects.
 - Many mentees placed at top institutions (UIUC, CMU, UW, UMD, Oxford) or employed as data scientists and researchers in industry.
- **Online & Youth Education:**
 - Publicly available course playlists on YouTube with **175,000+ total views**, assisting learners globally.
 - Collaborated with Edkasa and TikTok on **#examready**, generating **665+ million** views for high-school-level instructional videos.
 - Delivered short courses on AI/ML for **schoolchildren (grades 6–10)**, fostering early STEM engagement.

Selected Student Feedback

“He radiates passion for his field, which inspires you to try understanding even the most complex concepts.”

—Course Evaluation (Machine Learning)

“He made Machine Learning so easy to understand—amazing!”

—Course Evaluation

“Before his course, I had no clear path, but thanks to his lectures, I secured a Data Scientist job. He made me love ML.”

—Student Email Testimonial

“He uses humor, stories, and real-world demos that keep us fully hooked. One of the best teachers at LUMS!”

—Mid-semester Feedback

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: A two-part online certification via LUMSx.](#) ([link](#))
- [Generative AI Workshops](#): One and two-day workshops to prepare participants for transitioning to an era of [human-AI symbiosis](#). The workshops aim to provide hands-on training to professionals from various fields, enabling them to utilize Generative AI tools, including ChatGPT, DALL-E, and others, to enhance productivity. The workshops also aim to sensitize the audience to the affordances and limitations of AI and ethical considerations around AI usage. The intended audiences of these workshops include [leaders](#) (CEOs, CTOs, Vice Chancellors, Deans, Directors, and Department heads), [Human Resource personnel](#) (Managers, HR officers), [Faculties and Staff](#) (Sciences, Technology, Business, Humanities, Social Sciences, Education, and Law), [Doctors](#) and [medical professionals](#), [Programmers](#) and [developers](#), and [students](#) of various backgrounds.
- [Artificial Intelligence for Civil Servants](#): Lectures on AI for Civil Servants as part of their Mid-career Management and Senior Management courses, delivered at the National Institute of Management (NIM), Lahore, tailored to inform policymakers and government officials about the potential benefits and risks of AI integration in governance.
- A short course on [AI and Machine Learning for school children \(grades 6 – 10\)](#), as part of the *FutureTech Camp* organized with the LUMS Learning Institute (LLI) and the Centre for Continuing Education Studies (CES).

Additional Experience

- | | |
|---|-----------|
| Lecturer for ML and NLP workshops at Mercy Health Network, USA (with Addo AI)
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. | 2021 – 22 |
| Co-creator of short educational videos (#examready) in collaboration with TikTok and Edkasa
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. | 2021 – 22 |
| Consultant for Gates-funded Digital Financial Services grant (with University of Washington)
The project investigated the role of the digitization of ROSCAs (committees) for the target users. I provided expertise in design for low-literate and non-tech-savvy audiences | 2017 – 18 |
| Consultant and guest lecturer for DFID-funded E-learn Punjab Project
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. | 2015 – 16 |
| Consultant for Weather Info Services at the Center for Language Engineering (CLE)
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%. | 2015 – 16 |

SERVICE & LEADERSHIP

Professional Service

- **Program Committee & Editorial Roles**

- [Associate Chair](#) (AC) since 2019 for **ACM CHI** (Specific Application Areas sub-committee), the top-tier HCI conference (CORE A*). Leads review discussions and coordinates reviewer recruitment for 10–20 annual paper submissions.
- [Program Committee Co-Chair](#) for **ACM COMPASS 2024** (formerly ACM DEV).
- [Short papers PC chair](#) for **ICTD 2017** (Information & Communication Technologies for Development). And [open sessions chair](#) for **ICTD 2022** (Information & Communication Technologies for Development).
- [Associate Editor](#) for the **ACM Journal on Computing and Sustainable Societies** (JCSS)
- Program Committee member for **ICTD**, **ACM COMPASS**, and **LREC** (International Conference on Language Resources and Evaluation).
- Served as **Publications Chair** & TPC member for the Conference on Language and Technology (CLT), plus reviewer for venues including **ACM CSCW**, **ACM DIS**, **UIST**, and journals such as **NLE** (Natural Language Engineering) and **Elsevier Information Processing & Management**.
- **Conference Organization**
 - **Co-organized ICTD 2017** in Pakistan—first time the flagship ICT4D conference was hosted in the country. Served as the **PC Chair for Short Papers/Notes** (2017) and **Open Sessions co-chair** (2022), ensuring timely, high-quality reviews.

University & Department Service

- **Committee Work at LUMS**
 - **MS Data Science Program Convener** (2021–22): Led a 12-faculty team creating a transdisciplinary, inclusive master’s degree. Conducted stakeholder surveys, aligned outcomes with industry needs, and shaped proposals for resources and curriculum.
 - **MS Artificial Intelligence Implementation**: Member of the ad-hoc committee for launching and running a new MS AI program in SSE, helping define admissions standards and curricula.
 - **Admissions & Curriculum**: Reviewed 100+ borderline undergrad admissions files at SSE; served on the **Undergraduate Program Committee** (UPC) for curriculum updates; sat on the **Graduate Admissions Committee** and the SSE subject test requirement committee.
 - **Additional Roles**: Senior Research Fellow at Mahbub-ul-Haq Research Centre; Student Activities/Outreach & Alumni Committee (SOAC) member; faculty editor of the CS Newsletter (BYTES).
- **Prior Service at Other Institutions**
 - At ITU: Vice President of the **ACM SIGCHI Lahore Chapter**, acted as **Director ORIC** (2019), served on Admissions Committee and the Undergrad Curriculum Committee, and helped establish the **UNESCO Chair for ICT4D**.
 - At FAST-NU: Advised multiple student societies (SOFTEC, DRAM@F, CREATIVE), designed lab manuals for core CS/EE labs, and assisted with accreditation efforts by the Pakistan Engineering Council.

Community & Outreach

- **School Initiatives & Younger Students**
 - E-learn Punjab: Recorded interactive Math and Physics video lessons for grade-8 students, using “pause-and-think” methodology and hands-on experiments.
 - Developed short AI/ML workshops for **6th–8th graders** at LUMS—using role-play and team games to spark curiosity without requiring advanced math or programming.
 - Panelist/keynoter at major school conferences (e.g., Beaconhouse’s “Schools of Tomorrow”) discussing AI ethics, automation, and education.
- **Wider Knowledge Sharing**
 - Created publicly available ML, Speech Processing, and Computing Fundamentals course playlists, collectively garnering **90,000+ views**.
 - Partnered with **TikTok/Edkasa** (#examready campaign) to produce exam-prep videos for Pakistani high schoolers—amassing **665M+** views.

- o Multiple invited talks at **Google, Meta, Microsoft Research India**, and academic institutions worldwide (EPFL, Carnegie Mellon–Qatar, NYU–AD, Cornell, UC Berkeley, UMich, etc.).

Student Advising & Mentorship

- **Lab & Hierarchies:** Implements an open-door policy and structured mentorship. Encourages students to do a “test semester project” before official capstones/senior theses.
- **Recommendation Letters:** Over **90** letters written, helping students secure funded MS/PhD offers at UIUC, CMU, UW, UMD, Oxford, ETH Zurich, and more.
- **Reflections Playlist:** Publishes short videos addressing career paths, study habits, and stress management with guest speakers from industry and academia.

Social Good & Responsible AI

- **Responsible Research Deployments**
 - o Adapted and deployed phone-based services (e.g., **Polly, Baang**) during emergencies (Ebola, COVID-19) to spread accurate health info.
 - o Created **Super Abbu**, empowering low-literate expectant parents with maternal/childcare awareness and immunization campaigns.
- **Ethical & Inclusive Tech:** Advocates for inclusive design, misinformation mitigation (deepfakes), and equitable AI usage. Conducts workshops and talks demystifying generative AI for industry leaders, policymakers, and broader communities.

Press and Media Coverage

Artificial Intelligence, Machine Learning, and Generative AI

- [1]. [Express news](#): Interview “آرٹیفیشل انٹیلی جنس کیا ہے اور کیا کچھ کر سکتی ہے؟”.
- [2]. [Voice of America](#): Interview in the program View360 on “AI and Pakistan”.
- [3]. [Suno News](#) HD: Morning show interview on the potentials of AI.

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]. [EurekAlert](#): 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]. [KERA News – 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]. [Samana 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 اُردو 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.

Professional Services

- *Program Committee Chair* for the ACM SIGCAS/SIGCHI Conference on Computing and Sustainable Societies (COMPASS) 2024.
- *Associate Chair* for the “Specific Application Areas” subcommittee of the Program Committee for CHI 2019, 2021 – 2024, 2026.
- *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 ACL Rolling Review (ARR), which is the centralized reviewing service for the top-tier publication venue in Natural Language Processing (ACL, EACL, EMNLP, and NAACL).
- *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 [consortium of experts to lead the MS AI program](#) of the School of Science and Engineering, LUMS – 2022
- 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.

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

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]. Esmā 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.**

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 the [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 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 [Computer Science lecturer 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 into the [MS programs at Virginia Tech. and a funded MS leading to a 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 [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 the 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 a [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 a 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](#).
- [42]. Ume Habiba (senior project advisee) got admitted to the MS Computer Science programs at [Purdue and Boston University](#).
- [43]. Saleha Muzammil (senior project advisee, research intern) got admitted to the MS Computer Science program at the [University of Waterloo](#), and the MS programs at [Harvard and Stanford](#).
- [44]. Natiq Khan (research intern) got admitted to the MS Data Science program at [NYU](#) and the MS Business Analytics program at [UIUC](#).
- [45]. Abdullah Mushtaq (senior project advisee) got admitted to the MS Computer Science programs at the [University of Rochester](#) and the [University of Iowa](#).
- [46]. Maira Kamal (senior project advisee) got admitted to the MS Computational Biomedicine and Biotechnology program at the [University of Pittsburgh](#).
- [47]. Mustafa Ali Mirza (senior project advisee) got admitted to the MS Information Science program at [UMICH](#), the MS Computer Science programs at the [University of Sydney](#), and the [University of New South Wales](#).
- [48]. Sikandar (research intern) got admitted to the MPS Information program at [Cornell](#), the MS CS programs at [Purdue and Georgetown](#).
- [49]. Muhammad Hamza Khawaja (research intern) got admitted to the PhD Computer Science program at [Stony Brook University](#).
- [50]. Muhammad Saad Haroon (senior project advisee) got admitted to the MS Telecommunications program at the [University of Maryland, College Park](#); the MS Information program at the [University of Michigan, Ann Arbor](#); the MS AI and MS CS programs at [Northeastern University](#), and the MS CS program at [Saarland University](#).
- [51]. Omer Tafveez (senior project advisee) got admitted to the MS Information program at the [University of Michigan, Ann Arbor](#) and the MS CS program at [Johns Hopkins](#).
- [52]. Sheza Munir (senior project advisee) got admitted to the [PhD Computer Science program at University of Toronto](#) and the [PhD Computer Science program at Dartmouth](#).
- [53]. Zain Ali Khokhar (senior project advisee) got admitted to the MS Computer Science programs at [University of Michigan and Purdue University](#).
- [54]. Daanish Uddin Khan (research intern) got admitted to the MS Computer Science programs at the [University of Massachusetts Amherst, Mississippi State, and Albany](#).
- [55]. Rafey Rana (senior project advisee) got admitted to the MS program at [Georgia Institute of Technology](#).
- [56]. Taha Zakir (senior project advisee) got admitted to the [MS AI program at CMU](#).
- [57]. Ahmad Mukhtar (senior project advisee) got admitted to the MS Information (Data Science) program at [UMich](#).
- [58]. Muhammad Abdullah (research intern) got admitted to the MS Computer Science programs at [Virginia Tech](#) and the [University of Virginia](#), and the MS ECE program at [Purdue](#).
- [59]. Muhammad Danyal Malik (senior project advisee) got admitted to the [MS Computer Science program at Oxford](#).
- [60]. Mustafa Abbas (research intern) got admitted to the MS Computer Science programs at the [University of Illinois Urbana-Champaign](#), and the MS Data Science and AI program at [Saarland University](#).
- [61]. Aamina Jamal Khan (senior project advisee) got admitted to the [MS Science in Information program at UMSI](#).

- [62]. Muhammad Shayan (research intern) got admitted to the MS Computer Science programs at the [University of Florida](#) and the [University of Arizona](#).
- [63]. Ayaan Amin (senior project advisee) got admitted to the MS Business Analytics program at the University of [Illinois Urbana-Champaign](#), and the MS Information Management program at [Seattle University](#).
- [64]. Ahmad Faraz (research intern) got admitted to the MS Information Science program at the [University of Michigan](#) and the MS Computer Science program at the [University of Freiburg](#).