Md Tamzeed Islam

tamzeed94@gmail.com +1 919 338 9648

Professional Summary

– Applied Scientist with expertise in Large Language Model development, safety systems, and multi-modal ML solutions. Demonstrated track record of delivering high-impact AI solutions at scale, with particular strength in bridging research and production environments. Led multiple successful projects resulting in significant performance improvements and business impact.

Professional Experience

Applied Scientist II, Amazon AGI Aug 2024 – Present

LLM Agents (Nova Act)

– Architected and deployed 2B parameter LLM safety model with comprehensive detection capabilities

– Developed multi-layered safety framework incorporating:

  * Prompt-level safety validation
  * Agent action verification
  * Advanced prompt injection defense mechanisms

– Engineered synthetic data generation pipeline for diverse safety scenarios

– Integrated generative reward models into VERL (RL framework) for browser agent optimization

– Worked on LLM-based reward model training and evaluation for browser agents

LLM Customization & Post Training

– Led Nova model customization for MIT metamaterial design project, featured in AWS NYC Summit 2025 keynote

– Leading GRPO implementation for domain-specific Python code generation using verifiable RL rewards

– Performed comprehensive data mixing experiments for PPO-based model customization

Applied Scientist II, Amazon Lab 126 May 2021 – July 2024
Cambridge, MA

– Developed multi-task DNN for Echo Show 10, combining speech source localization and VAD

– Implemented optimized sound event classification model for on-device DSP deployment

– Led development of multi-device speech-based head position detection using multi-channel data

Summer Research Intern, Microsoft Research May 2019 – August 2019
Redmond, WA

– Developed ML models for HRTF personalization using sensor fusion techniques

– Mentor: Dr. Ivan Tashev

Education

Ph.D. in Computer Science 2021
University of North Carolina at Chapel Hill

– Research Area: Multi-modal Machine Learning, Cross-modal Knowledge Transfer

B.Sc. in Computer Science & Engineering 2016
Bangladesh University of Engineering & Technology

– Awards: *Dean's List Award, University Merit, and Technical Board Scholarship.*

Skills

– **Programming Languages:** Python, C/C++, Java
– **Tools & Frameworks:** Tensorflow, Keras, PyTorch, MATLAB, Huggingface
– **Operating Systems:** Linux, Windows, Unix

Selected Publications

– Mohapatra, P., Islam, B., **Islam, M.T.**, Jiao, R., Zhu, Q. (2023). *Efficient Stuttering Event Detection Using Siamese Networks.* IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP).
– **Islam, M.T.**, Nirjon, S. (2021). *Sound-Adapter: Multi-Source Domain Adaptation for Acoustic Classification Through Domain Discovery.* International Conference on Information Processing in Sensor Networks (IPSN), 176-190.
– **Islam, M.T.**, Tashev, I. (2020). *Anthropometric features estimation using integrated sensors on a headphone for HRTF personalization.* AES International Conference on Audio for Virtual and Augmented Reality.
– **Islam, M.T.**, Nirjon, S. (2020). *Wi-Fringe: Leveraging text semantics in WiFi CSI-based device-free named gesture recognition.* International Conference on Distributed Computing in Sensor Systems (DCOSS).
– **Islam, M.T.**, Nirjon, S. (2019). *Soundsemantics: exploiting semantic knowledge in text for embedded acoustic event classification.* International Conference on Information Processing in Sensor Networks.
– de Godoy, D., Islam, B., Xia, S., **Islam, M.T.**, et al. (2018). *Paws: A Wearable Acoustic System for Pedestrian Safety.* IEEE/ACM International Conference on Internet-of-Things Design and Implementation (IoTDI).
– **Islam, M.T.**, Islam, B., Nirjon, S. (2017). *SoundSifter: Mitigating Overhearing of Continuous Listening Devices.* ACM Conference on Mobile Systems, Applications, and Services (MobiSys).