

Azal Ahmad Khan

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Education

University of Minnesota, Twin-Cities

September 2024 – May 2029

Ph.D., Computer Science and Engineering (GPA: 3.9/4.0)

- Advisor: [Dr. Ali Anwar](#)
- Amazon ML Systems Fellow (2025) & GAGE Fellow (2024)

Indian Institute of Technology (IIT), Guwahati

November 2020 – May 2024

B.Tech., Chemical Science and Technology

- Thesis Advisor: [Dr. Debanga Raj Neog](#)
- Thesis: Trustworthy Language Models and Optimized Text-to-Image Synthesis via DPO. [\[PDF\]](#)

Research Experience

University of Minnesota

September 2024 – Present

Graduate Assistant

Advisor: [Dr. Ali Anwar](#)

University of Minnesota

January 2022 – May 2024

Undergraduate Research Intern

Advisor: [Dr. Ali Anwar](#)

University of New South Wales

January 2022 – December 2023

Undergraduate Research Intern

Advisor: [Dr. Rohitash Chandra](#)

Publications

- IPDPS '25 Ahmad Faraz Khan, Xinran Wang, Qi Le, **Azal Ahmad Khan**, Haider Ali, Jie Ding, Ali Butt, Ali Anwar. *PI-FL: Personalized and incentivized federated learning*. In Proceedings of the 39th IEEE International Parallel & Distributed Processing Symposium.
- EuroSys '24 Ahmad Faraz Khan, **Azal Ahmad Khan**, Ahmed M Abdelmoniem, Samuel Fountain, Ali Butt, Ali Anwar. *FLOAT: Federated Learning Optimizations with Automated Tuning*. In Proceedings of the Nineteenth European Conference on Computer Systems. (*Acceptance Rate: 16%*).
- Under Review **Azal Ahmad Khan**, Xinran Wang, Ahmad Faraz Khan, Debanga Raj Neog, and Ali Anwar. *Direct Preference Optimization for Prompt Engineering in Text-to-Image Synthesis*. Under Review.
- BigData '24 **Azal Ahmad Khan**, Ahmad Faraz Khan, Haider Ali, Ali Anwar. *Personalized Federated Learning Techniques: Empirical Analysis*. In IEEE International Conference on Big Data 2024 (Short Paper).
- BigData '24 **Azal Ahmad Khan**, Sayan Alam, Xinran Wang, Ahmad Faraz Khan, Debanga Raj Neog, and Ali Anwar. *Mitigating Sycophancy in Large Language Models via Direct Preference Optimization*. In IEEE International Conference on Big Data 2024 (Short Paper).
- Elsevier **Azal Ahmad Khan**, Omkar Chaudhari, Rohitash Chandra. *A review of ensemble learning and data augmentation models for class imbalanced problems: combination, implementation and evaluation*. Expert Systems with Applications, Volume 244, 122778.
- MDPI **Azal Ahmad Khan**, Salman Hussain, Rohitash Chandra. *A Quantum-Inspired Predator-Prey Algorithm for Real-Parameter Optimization*. Algorithms 2024, 17(1), 33.

Awards & Grants

- 2025 Recipient of [Amazon Machine Learning System Fellowship](#).
- 2024 Recipient of [UMN GAGE Fellowship](#) from the Department of CSE, UMN.
- 2024 Received a travel grant to attend [Google Research Week](#) at Google Research, Bangalore.
- 2024 Highly Commended Entry (*Top 10%*) at [Global Undergraduate Research Award 2024](#).

Technical Skills

Programming Python, C/C++ **Web Technologies** HTML, CSS, Bootstrap

LLM Libraries and Frameworks LangChain, Ollama, OpenAI, AutoGen, Hugging Face

ML Tools Pandas, Numpy, Scipy, Matplotlib, Scikit-learn, Tensorflow, Pytorch, OpenCV

Miscellaneous Jupyter Notebook, Google Colab, Git, GitHub, SQL, L^AT_EX