Abdullah Bin Faiz

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Education

National University of Computer and Emerging Sciences *Aug. 2019 - Jun. 2023*
Bachelor of Sciences (BS) in Computer Science *Islamabad, Pakistan*

Research Experience

Lahore University of Management Sciences *Oct. 2024 - Present*
Research Assistant - Biomedical Informatics Research Lab *Lahore, Pakistan*

- Designed a centralized web server providing rich analysis and programmatic access of Post-Translational Modification data; Devised log-sum and log-log product algorithms for calculation of propensity scores of PTM on a residue
- Currently developing a deep learning model for residue-level PTM prediction using structural conformation and residue-pair relationships

Industry Experience

CureMD *Jul. 2023 - Present*
Senior AI Research Engineer *Lahore, Pakistan*

- Evaluated language models for extraction of breast cancer phenotypes from clinical notes, outperforming ontology-based pipelines with 86% accuracy using Llama-3 8B
- Implemented a scalable digital twin system prototype supporting > 100,000 virtual patients and doctors in real time, demonstrating feasibility of population-scale predictive health modeling; deployed on a 4-node A100 GPU cluster with latency < 1s per 70k patients
- Proposed a deliberative agent architecture integrating language models' deep reasoning capabilities into classical BDI agents, enabling hybrid approaches to autonomous decision-making and planning

Publications

- M. F. Shahid, A. Afzal, A. B. Faiz, et al. (2025) "Leveraging Large Language Models and Survival Analysis for Early Prediction of Chemotherapy Outcomes." *International Conference on Artificial Intelligence in Medicine*. **[Accepted; withdrawn prior to publication]**
- A. B. Faiz, et al. (2025) "PERCEPTRON-PTMKB - A Web Server for Residue-Based Post-Translational Modification Analysis and Propensity Scoring." *Journal of Molecular Biology* **[Under Review]**
- R. Shah, A. B. Faiz, et al. (2025) "TCNA" *Journal of Molecular Biology* **[Under Review]**

Presentations

- A. B. Faiz, et al. (2024) "Extracting Breast Cancer Phenotypes from Clinical Notes: Comparing LLMs with Classical Ontology Methods." *Proceedings of AIME Workshop on*

AI in Oncology.

- M. U. Shahid, A. B. Faiz et al. (2025) "Medical Metaverse." Presented at the AI Booth, *HIMSS Global Health Conference & Exhibition*, Las Vegas, NV, USA.

Teaching Experience

National University of Computer and Emerging Sciences *Jul. 2021 - Jun. 2023*
Teaching Assistant *Islamabad, Pakistan*

- Assisted supervisors in Design and Analysis of Algorithms, Data Structures, Object-Oriented Programming, and Computer Organization & Assembly Language
- Designed assessments and supported students with challenges in coursework

National University of Computer and Emerging Sciences *Jul. 2022 - Jun. 2023*
Lab Demonstrator *Islamabad, Pakistan*

- Supervised practical labs and conducted evaluations
- Guided students in lab work

Academic Projects

- **Novozymes Enzymes Thermostability Prediction:** Developed an XGBoost-based forest model for finding the optimal melting temperature of a trial enzyme; Spearman's correlation of 0.56 achieved.
- **TORCS Self-Driving Car:** Trained a racing-policy Random Boosted Forest in TORCS from 100 hours of human driving data.

Volunteer Experience

- Co-organized the **24th IEEE International Multitopic Conference**
- Served as Head Research at the **Society for Advancement in Scientific Research** group
- Served in a Buddy Programme at the **FAST Computing Society** group

Awards

- 7 times consecutive Dean's List of Honors (2020 - 2023)

Technical Skills

- **Programming Languages:** Python, C++, C, Java
- **Tools:** Git, Github, GNU/Linux, Docker, Milvus, Nginx
- **Frameworks:** PyTorch, Scikit-learn, NumPy, Pandas, SciPy, Matplotlib, Hugging Face Transformers, Biopython, CUDA, TensorRT, Apple MLX