**Education**

**National University of Computer and Emerging Sciences**, Islamabad, Pakistan *[Aug 2019 - Jun 2023]*

* Bachelor of Sciences (BS) in Computer Science
  + CGPA 3.69/4.0 (Cum Laude)
  + Honors: Dean’s List (2020 - 2023)
  + Electives specializing in Deep Learning and Bioinformatics

**Research Experience**

**Research Assistant**, BIRL, LUMS, Lahore, Pakistan *[Oct 2024 - Present]*

* Designed **PERCEPTRON-PTMKB**, a centralized web server and predictive algorithm for Post-Translational Modifications
* Developing a deep learning model for residue-level PTM prediction using structural conformation and residue-pair relationships

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

* Evaluated the role of language models for processing oncology-based clinical notes and extracting phenotypes; compared against ontology-based baselines
* Proposed a novel agentic architecture integrating LLM planners with classical BDI agents
* Implemented a digital twin system prototype successfully scaled to >100k simulated agents in stress tests on a 4-node GPU cluster; latency < 1s per patient

**Publications and Presentations**

* A. B. Faiz, et al. “Extracting Breast Cancer Phenotypes from Clinical Notes: Comparing LLMs with Classical Ontology Methods.” *Proceedings of AIME Workshop on AI in Oncology*,2024
* A. B. Faiz, M. Shoaib, S. U. Chaudhary. “PERCEPTRON-PTMKB - A Webserver for Residue-Based Post-Translational Modification Analysis and Propensity Scoring.” *Computational Resources for Molecular Biology in Journal of Molecular Biology*, **Submitted Oct 2025; under review**
* A. Ali, A. R. Mohsin, A. B. Faiz, M. Farooq. “HAKI - A Multi-Agent System Framework for Modern Agent-Oriented Applications.” **Manuscript in preparation**

**Teaching Experience**

**Teaching Assistant**, NUCES, Islamabad, Pakistan *[Jul 2021 - Jun 2023]*

* Assisted 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

**Lab Demonstrator**, NUCES, Islamabad, Pakistan *[Jul 2022 - Jun 2023]*

* Supervised labs; supported student work and evaluation

**Academic Projects**

* **Novozymes Enzymes Thermostability Prediction:** Developed an XGBoost-based forest model for finding the optimal melting temperature of a trial enzyme; Spearman’s ρ = 0.56 on limited data
* **TORCS Self-Driving Car:** Trained a racing-policy ANN in TORCS from hundreds of hours of human driving logs

**Technical Skills**

* **Programming Languages:** Python, C++, C, Java
* **Frameworks:** PyTorch, Scikit-learn, Biopython, NumPy, Pandas, SciPy, Matplotlib, Hugging Face Transformers, CUDA, Apple MLX