**Education**

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

* Bachelor of Sciences (BS) in Computer Science
  + Electives specializing in Deep Learning and Bioinformatics

**Research Experience**

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

* Designed **PRECEPTRON-PTMKB**, a centralized webserver and predictive algorithm for Post-Translational Modifications
* Experimenting with a novel deep learning model for residue-level PTM prediction by considering structural conformation and pairwise relationships between residues

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

* Evaluated role of language models for processing oncology-based clinical notes and extracting phenotypes
* Proposed a novel agentic architecture utilizing the Belief-Desire-Intention (BDI) model integrating LLMs with BDI agents
* Studied and developed a digital twin systems (Medical Metaverse) for modeling patient state in real time

**Publications and Presentations**

* A. B. Faiz, et al. “Extracting Breast Cancer Phenotypes from Clinical Notes: Comparing LLMs with Classical Ontology Methods.” *Proceedings of AI in Oncology Workshop for the International Conference of Artificial Intelligence in Medicine in Europe*,2024
* A. B. Faiz, et al. “PERCEPTRON-PTMKB - A Webserver for Residue-Based Post-Translational Modification Analysis and Propensity Scoring.” *Journal of Molecular Biology* (Computational Resources for Molecular Biology), *Submitted Oct 2025, Under Review*
* A. Ali, et al. “HAKI - A Multi-Agent System Framework for Modern Agent-oriented Applications.” *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 for supporting students in 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
  + Applied feature engineering on limited dataset
  + Achieved a Spearman’s correlation of 0.56
* **TORCS Self-Driving Car:** Designed an artificial neural network to make a car drive intelligently based on the features captured through hundreds of hours of manual driving

**Honors and Awards**

* 2nd Position, CureMD AI BootCamp (2024)
* BS with Honors - Cum Laude (2023)
* Dean’s List Award (2020 - 2023)

**Technical Skills**

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