

# Basit Rahim

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## Education

### Lahore University of Management Sciences (LUMS)

Aug 2019 – June 2023

Bachelors of Science in Computer Science

Graduation with Distinction

Dean's Honor List: 2019-2020, 2020-2021, 2021-2022

## Experience

### Research Associate | PAMS (Pakistan Alliance for Maths and Science)

June 2025 – Present

- Design and implement an agent-based modeling framework to investigate factors contributing to student dropout in Pakistan and to simulate cost-effective, high-impact policy interventions for government stakeholders.
- Conduct literature review and develop survey instruments for primary data collection; oversee Research Solutions in large-scale data gathering to ensure methodological rigor and reliability.
- Collaborate with CITY @ LUMS to integrate GIS-based mapping and spatial analysis into the study, enabling geographic visualization of dropout patterns and context-specific insights.
- Analyze and process collected datasets to support model development and policy simulations, reinforcing research interests in computational social science, education research, and applied data-driven policy design.

### AI Engineer | ShipIn

June 2024 – June 2025

- Conducted research and development of scalable back-end systems for ShipIn, with a focus on edge AI platforms, evaluating performance trade-offs, and ensuring robustness in real-world deployments using Rust.
- Designed and experimented with real-time data pipelines and novel database optimization strategies to enable efficient large-scale data processing, storage, and retrieval for research-driven analytics.

### Python & Data Engineer | Turing

Aug 2024 – May 2025

- Researched training of large language models for coding and data science using Reinforcement Learning with Human Feedback (RLHF), with emphasis on model alignment, robustness, and reliability.
- Implemented and evaluated systematic methodologies for assessing model-generated solutions to software engineering problems, analyzing failure cases and proposing research-driven improvements.

### Software Engineer | Strategic Systems International

Jul 2023 – Aug 2024

- Developed a research-grade test infrastructure for ASMPT's line control systems, enabling automated validation, large-scale simulations, and reproducible experimentation.
- Applied simulation frameworks with RabbitMQ for real-time communication studies and designed REST APIs to support extensible integration and remote experimentation on line control units.

## Projects

### AI Tutor | Python, DevOps, AI, Fullstack Development, PSQL, langchain

- Developing an AI-powered tutor for a large school chain in Pakistan, aimed at providing personalized learning experiences to students based on the school's curriculum.
- Leading the pilot project to assess the AI tutor's impact on student learning, with plans to scale the solution across 150+ schools upon successful implementation.

### Early detection of third-party abuse on twitter | Python, APIs, SQL

- Developed a machine learning model to detect abusive third-party applications on Twitter by analyzing early activity, significantly improving detection accuracy.
- Conducted a longitudinal study on third-party app abuse, contributing to the development of automated systems to detect and prevent malicious activities on social networks.