

# Muhammad Zayan

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## EDUCATION

### Ghulam Ishaq Khan Institute (GIKI)

Bachelor of Science in Computer Science

Topi, Pakistan

Sep. 2023 – May 2027

- CGPA: 3.24/4.00 (4 Semesters, 5th Completed)
- Completed coursework in Machine Learning and Mobile App Development (Dart/Flutter).

## EXPERIENCE

### Data Science Intern

Summer 2024

Integration Experts

Islamabad, Pakistan

- Engineered computer vision solutions utilizing **YOLO** and **MediaPipe** models for object detection and pose estimation.
- Collaborated with the engineering team to optimize ML model inference times for real-time applications.
- Applied data preprocessing techniques using **Pandas** and **NumPy** to refine datasets for training deep learning models.

## PROJECTS

### AI Gym Vision | Python, MediaPipe, OpenCV, Linear Algebra

2024

- Developed a computer vision-based fitness assistant capable of tracking human pose in real-time using MediaPipe.
- Implemented vector mathematics to calculate joint angles, providing automated feedback on exercise form.
- Collaborated in a team environment to integrate vision models with a user-friendly interface.
- Source Code: [github.com/mzayan-bit/AI\\_Gym\\_Vision](https://github.com/mzayan-bit/AI_Gym_Vision)

### Roomify | Django, Scikit-Learn, Python, SQL

2024

- Co-developed a "Compatibility Guarantee" roommate matching platform using a hybrid **Heuristic** and **Linear Regression (ML)** engine, achieving an 85.8% Match Quality score.
- Architected a scalable **Django** backend with automated server-side model retraining to adapt to new user data.
- Led the Product & UI strategy, implementing "Trust Architecture" (verified badges) and boolean filtering to resolve user onboarding friction.
- Designed a Normalized **SQL** schema to handle complex constraints like sleep schedules and study habits.
- Source Code: [github.com/mzayan-bit/Roomify](https://github.com/mzayan-bit/Roomify)

### HabitFlow | App Development, UI/UX Design

2024

- Designed and built a mobile habit-tracking application focusing on user retention and streak mechanics.
- Applied principles learned from App Development curriculum to create responsive layouts.
- Implemented local storage and state management for a seamless offline-first user experience.
- Source Code: [github.com/mzayan-bit/habitflow-app](https://github.com/mzayan-bit/habitflow-app)

## TECHNICAL SKILLS

**Languages:** Python, C++, C, Dart, Assembly (RISC-V), Verilog, SQL

**Frameworks & Libraries:** Django, Flutter, Scikit-learn, MediaPipe, YOLO, OpenCV, Pandas, NumPy

**Tools & Platforms:** Git, GitHub, QEMU, Linux (xv6), VS Code, PostgreSQL

**Concepts:** Machine Learning, Operating Systems, Data Structures, OOP, App Development

**Competitive Programming:** Active problem solver on Codeforces (Python)