

# Ibraheem Aziz

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## PROFESSIONAL SUMMARY

Computer Science student at FAST NUCES with hands-on experience in full-stack and mobile development. Skilled in building Android applications and developing efficient C++ systems. Seeking a software engineering internship to apply my backend programming skills and tackle real-world technical challenges

## TECHNICAL SKILLS

**Languages:** Python, C++, Java, x86 Assembly, Kotlin, HTML, CSS, JavaScript  
**Core CS concepts:** Reinforcement learning, Secure Coding, Data Structures, OOP, Operating Systems, Computer Networks  
**Backend & Databases:** RESTful APIs, PHP, SQL, MySQL  
**Tools & Frameworks:** Docker, Android Studio, SFML, OpenGL/Glut

## EXPERIENCE

### NCRA-UAV Dependability Lab

July 2025 – Aug 2025

Backend & Cybersecurity Intern

- Contributed to backend development and testing of a UAV monitoring and simulation system in a research environment.
- Implemented and evaluated path planning approaches including SARSA, A\*, and Q-learning for autonomous navigation scenarios.
- Worked on battery management, multi-agent coordination, and collision avoidance mechanisms.
- Assisted in the implementation of cybersecurity attack detection and mitigation functionalities for system resilience.
- Contributed to system logging, monitoring, and performance optimization activities.

## PROJECTS

### Socially – Instagram Clone

Android, Kotlin, PHP, MySQL

- Developed a full-stack social media application replicating core Instagram features including feeds and posts.
- Designed UI/UX using XML and implemented app logic utilizing Kotlin within Android Studio.
- Built backend services using PHP and integrated MySQL for efficient user data management.

### Aerologix MRO – Aircraft Maintenance System

Java Swing, PHP, MySQL

- Developed a desktop app to manage aircraft maintenance, repair, and overhaul operations.
- Implemented back-end logic for service requests and inventory tracking, with a Java Swing front-end interface.

### Troy – AI Voice Assistant

Python, OpenAI API

- Developed a desktop voice assistant using speech\_recognition and pyttsx3 for automated audio processing.
- Integrated OpenAI API to process complex user queries and execute dynamic automated web navigation tasks.

### Xonic Game & Arcade Clones

C++, SFML, Glu-Glut

- Engineered a multiplayer platform utilizing a Min Heap for leaderboards and priority queues for fair matchmaking.
- Designed 2D games (Snake, Wordle, Candy Crush clone) using OOP concepts, SFML, and OpenGL handling match detection.

## EDUCATION

### Bachelor of Science in Computer Science

Expected: Aug 2027

National University of Computer and Emerging Sciences (FAST NUCES) - Islamabad, Pakistan

Discipline: BS(CS)

### Pre-Engineering (Intermediate)

Graduated: June 2023

Army Public School and College System - Rawalpindi, Pakistan

## LEADERSHIP & COMMUNITY ENGAGEMENT

### Community Computing Initiative

Volunteer Computing Instructor

- Conducted a computing lab introducing basic programming using Scratch to local students.
- Fundraised and provided essential resources while delivering hands-on sessions to build foundational computer skills.