




Meesum Qazalbash


Rising Senior at Habib University

A meticulous problem solver proficient in Python and C++, passionate about merging math with coding. Seeking to innovate with expertise in a dynamic team.

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 Qazalbash

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EXPERIENCE

SUMMER TEHQIQ RESEARCH PROGRAM

UNDERGRADUATE RESEARCHER

Jun 2022 - Aug 2022 and Jun 2023 - Aug 2023 | Karachi, Pak

- Actively participated in **Implementation of Graphical Pipeline** (in Summer 2022) Studied different rendering techniques, with a focus on the hardware-based Graphical Pipeline, conducted research to emulate, developed a user-friendly software prototype using Python3.
- Actively participated in **Comparative Analysis of Deep Learning Models for Super Resolution of MR Images** (in Summer 2023). Explored and tested various DL architectures and evaluated state-of-the-art models using PyTorch & TensorFlow.

OASIS INFOBYTE

DATA SCIENCE INTERN

July 2023 - Aug 2023 | Remote

- Data cleaning, preprocessing, visualization and analysis. Developed machine learning classification models for predictive analysis.

HABIB UNIVERSITY

TEACHER ASSISTANT

Aug 2021 - May 2023 | Karachi, Pak

- Supported instructors in Calculus I, OOP, Engineering Mathematics, Programming Fundamentals, and Data Structure & Algorithm.
- Assisted in lab management, paper checking, and conducting office hours to address student queries.

WORKSHOP INSTRUCTOR

Dec 2022 - Jan 2023 | Karachi, Pak

- Conducted the winter workshop of Data Structure & Algorithm and Introduction to C++ for 40 students.

EDUCATION

HABIB UNIVERSITY

BSC. IN COMPUTER SCIENCE & MATHEMATICS

Aug 2020 - May 2024 | Karachi, Pak

- CGPA: 3.77/4.0
- HU-TOPS full merit scholarship for 4 years.
- Honored in Dean's List.
- Cofounder & Lead of Habib Maths Club.
- Module Lead at HU Atomos.

ADAMJEE GOVERNMENT SCIENCE COLLEGE

INTERMEDIATE PRE-ENGINEERING

Aug 2018 - Jun 2020 | Karachi, Pak

- Secured A1 Grade (Overall 91%) in HSSC.
- 7th position citywide.

SKILLS

TOOLS & SOFTWARES

Linux (Ubuntu, Archlinux), Git Versioning Tool, Jupyter Notebook, L^AT_EX, Plotly, Dash, Bash, HTML, CSS

PROGRAMMING LANGUAGES & FRAMEWORKS

Python, C/C++, Rust, Javascript, Julia, PyTorch, TensorFlow, CUDA-C/C++, OpenCL, WebGL

CONTENT WRITING

I have been writing social and tech related blogs for past two years. You can find my work on Medium (@mesumali26-ma).

COMPETITIONS

Games of Code 2023

Earned 1st position at speed coding.

Invent For the Planet-2023

First runner-up in Pakistan, a 48-hour collaborative competition organized by TEXAS A&M.

ICPC Asia Regionals 2022

Secured 19th position nationwide.

PROJECTS

CUDABIH

Research project on **CUDA** implementation of GPU-accelerated Bounding Interval Hierarchy. Focus on optimizing spatial queries for ray-tracing and collision detection in computer graphics.

GENETIME

Developed an automated time-table generation system using our designed **Genetic Algorithm**. The project leveraged real data from Habib University in training and testing.

EMULATED GRAPHICAL PIPELINE

Developed a **Python3** based **emulation of the Graphical Pipeline**. Project provided students with hands-on experience in graphical rendering, allowing interactive tweaking of stages for insights into graphics optimization.

HOBBIES

Playing Chess and Table Tennis, reading, competitive programming, and swimming.