


# Meesum Ali Qazalbash

CS Junior at Habib University

Mathematics & Competitive Programming Enthusiast

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Qazalbash

## EXPERIENCE

### HABIB UNIVERSITY

TEACHER ASSISTANT

Aug 2021 - Present | Karachi, Pak

- Teaching Assistant for courses Programming Fundamentals, Data Structures and Algorithms, Object Oriented Programming, Calculus I and Engineering Mathematics.
- My responsibilities include checking assignments, and assisting in labs.

COFOUNDER & LEAD OF HABIB MATHS CLUB

Aug 2021 - Present | Karachi, Pak

- I along with my team arranged independent study groups for Abstract Algebra, Number Theory and Topology.
- We also arranged a competition for secondary school and high school students named as Mathema.

### SUMMER TEHQIQ RESEARCH PROGRAM

UNDERGRADUATE RESEARCHER

Jun 2022 - Aug 2022 | Karachi, Pak

- Worked on a research project to emulate the working of graphical pipeline on a CPU.
- The project was aimed to promote the hands on experience of students in the field of Computer Graphics. Later the same project worked as the prototype for the pipeline students were supposed to implement in their course project.

## EDUCATION

**HABIB UNIVERSITY** BSC. IN COMPUTER SCIENCE & MATHEMATICS

Aug 2020 - May 2024 | Karachi, Pak

- List of all courses taken is available on LinkedIn.
- CGPA: 3.8/4.0
- Dean's List: Fall 2022.
- Cofounder & Lead of Habib Maths Club.

**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 (Proficient with Ubuntu, Archlinux), Git Versioning Tool (Proficient), Jupyter Notebook (Proficient), L<sup>A</sup>T<sub>E</sub>X(Proficient), Markdown (Proficient), Plotly (Intermediate), Dash (Intermediate), Bash (Basic), HTML (Basic), CSS (Basic)

### PROGRAMMING LANGUAGES

Python (Expert), C/C++ (Expert), C-OpenCL (Intermediate), CUDA-C/C++ (Intermediate), JavaScript (Basic), Julia (Basic), Haskell (Basic)

## CONTENT WRITING

I have been writing social and tech related blogs for past two years. You can find my work on Medium.

## COMPETITIVE PROGRAMMING

I have been doing Competitive Programming for more than two years.

### LEETCODE - PROFILE (MAQ2628)

#### ICPC Asia Regionals 2023

My team qualified for the Regional round, we were unable to attend the event due to fiscal constraints.

#### ICPC Asia Regionals 2022

Secured 19th position nationwide, solved 4/7 questions.

## PORTFOLIO

### GENETIME

A genetic algorithm that optimizes the time table for a university provided some soft and hard constraints. It is written in **Python3**.

### RAYTRACER

A Raytracer written in **C++** which can render 3D scenes with spheres, triangles, and planes.

### EMULATED GRAPHICAL PIPELINE

An Emulated Graphical Pipeline written in **Python3** which can render basic scenes with spheres, triangles, and planes.

### PROCESSOR ON VERILOG

A Processor written in **Verilog** which can perform basic arithmetic and logical operations. They are of two types: Single Cycle and Pipeline Processor with hazard detection and forwarding.

### CHECKERS WITH AI

A Checkers game developed in **Python3** with an AI that uses greedy algorithm to play.

### FLIGHT SIMULATOR

A Flight Simulator written in **WebGL** which can render 3D scenes with planes, mountains, and clouds.

### WORDLE ASSISTANT

A Wordle Assistant written in **C++** that helps in solving Wordle puzzles by using inferencing and backtracking.

### DASH APP FOR DATA VISUALIZATION

A Dash App written in **Python3** that visualizes geological data from a CSV file.

## AWARDS

- Dean's List for Fall 2022.
- Merit based 100% scholarship under the name of Talent Outreach Promotion & Support Program by Habib University.