



# 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 the courses Programming Fundamentals, Data Structures and Algorithms, Object Oriented Programming, Calculus I and Engineering Mathematics.

### SUMMER TEHQIQ RESEARCH PROGRAM UNDERGRADUATE RESEARCHER

Jun 2022 - Aug 2022 | Karachi, Pak

- Working on a research project to emulate the working of graphical pipeline in a CPU.

## EDUCATION

### HABIB UNIVERSITY BSC IN COMPUTER SCIENCE & MATHEMATICS

Aug 2020 - Jul 2024 | Karachi, Pak

Related courses taken,

- Computer Architecture (Verilog & RISC-V)
- Computer Graphics
- Database Management Systems
- Data Structures and Algorithms
- Data Structures II
- Digital Logic & Design
- Discrete Mathematics
- Linear Algebra
- Multivariable Calculus
- Nature of Computation
- Operating Systems
- OOP Design & Methodologies (C++)
- Probability and Statistics
- Real Analysis
- Statistical Inferencing

### 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 Archlinux, Ubuntu), Git Versioning Tool (Proficient), Jupyter Notebook (Proficient),  $\text{\LaTeX}$  (Proficient), Markdown (Proficient), Plotly (Intermediate), Dash (Intermediate), HTML (Basic)

### PROGRAMMING LANGUAGES

Python (Expert), C/C++ (Expert), JavaScript (Basic), Julia (Basic)

## CONTENT WRITING

I have been writing social and tech related blogs for past two years. You can find my work on Medium at <https://medium.com/@mesumali26-ma>

## COMPETITIVE PROGRAMMING

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

### LEETCODE - PROFILE (MAQ2628)

#### ICPC Asia Regionals 2023

My team has been qualified for the Regional round which is to take place in Feb '23.

#### ICPC Asia Regionals 2022

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

## PORTFOLIO

(Hyperlinks attached otherwise these projects are present at my GitHub profile)

### RAYTRACER

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

### CHECKERS WITH AI

A Checkers game with an AI that uses greedy algorithm to play.

### FLIGHT SIMULATOR IN WEBGL

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

### INTERACTIVE JULIA SET IN WEBGL

An Interactive Julia Set written in WebGL which can render Julia Sets with different parameters.

### EMULATED GRAPHICAL PIPELINE

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

### 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.