

# Ammar Khawaja

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## EDUCATION

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### LUMS

Lahore, PK

*B.S Computer Science; GPA: 3.28*

*2016 – 2020*

Relevant Courses: Distributed Systems, Software Engineering, Advanced Programming, HCI (UI/UX), Data Structures, Algorithms, Network-Centric Programming, Network Security

## EXPERIENCE

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### Fullstack Software Engineer (Javascript)

Sep 2020 – July 2023

#### *Quality Group*

- Part of the core team responsible for engineering and developing the express.js (node.js) server meant to replace the legacy Oracle server for management and planning of the company's internal operations
- Developed the system in modules ensuring the original SQL database and new REST API calls work as intended, including making most of the controllers and models in node.js
- Remodeled the schema of the SQL DB to 3NF and updated the queries in the codebase resulting in up to 1.5X performance boost
- Designed standardized UI/UX using React for system's frontend after extensive Usability testing
- Designed tests for Frontend, API calls and DB using Jest.js

### Computer Science Teaching Assistant

Aug 2018 – Dec 2019

#### *LUMS University*

- Engineered CMS website for university society using MERN stack for event planning and management
- Taught beginner and intermediate level CS courses to students in C++
- Conducted Labs, tests and office hours

## PROJECTS

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### Chatting App | *MERN Stack, Socket.IO, JWT Auth, REST API*

Mar 2023 – June 2023

- Developed a full-stack web application using express.js serving REST APIs with React and tailwindcss + daisyUI as the frontend
- Authorization and authentication done using JSON web tokens (JWT) for secure sessions
- Implemented Real-time communication between clients using Socket.IO
- Client information and messages stored in MongoDB instance for faster reads

### Peer-to-peer file sharing | *Python, sockets*

Dec 2019 – Mar 2020

- Engineered a Chord-like p2p node for sharing files with other nodes on request
- Implemented Finger tables for  $O(\log N)$  lookup time
- "Stabilization" stage and file redundancy implemented to minimize risk of file loss

## TECHNICAL SKILLS

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**Languages:** Javascript/Typescript, Python, Golang, C/C++, SQL (Postgres/MySQL), HTML/CSS

**Frameworks:** React.js, Node.js, Django, Express.js, Next.js, Astro

**Developer Tools:** Git, Linux, SSH, VS Code, Lighthouse

**Libraries:** Websockets, JWT