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EDUCATION

Georgia Institute of Technology

Master of Science in Computer Science — *Jan 2025 – Present*

- **Concentrations**: Computing Systems
- **Related Coursework**: GIOS, IIS

University of Mumbai - K.J. Somaiya College of Engineering — Mumbai, IN

B.Tech. in Electronics and Telecommunication Engineering, GPA: 8.98/10 — *Aug 2019 – May 2023*

- **Concentrations**: Computer Networking & Cyber Security
- **Related Coursework**: Data Networking (Cisco Academy), Cyber Security & Ethical Hacking, Data Structures & Algorithms, Operating Systems, Real Time Operating Systems, Microprocessor And Microcontroller.

WORK EXPERIENCE

Famedly GmBH — Berlin, DE

Software Engineer — *April 2021 – Present*

Developing TI-Messenger, software for the German healthcare system.

- Lead sub-teams and **scaled underlying WebRTC** architecture to handle large rooms by integrating a SFU and securing them with encoded transforms/S-Frames and secure signalling. Also **volunteering at the MatrixRTC team** which specifies how Matrix and WebRTC work together.
- Took initiative and implemented specific customer requirements while also adhering to the TIM specifications.
- **Optimized database and network queries** using novel caching techniques to improve loading times **by 50%**
- Learned new technologies like Rust to implement **memory-safe and concurrent programming practices** to enhance system reliability and reduce bugs in tools.
- Developed a new web framework (wupper) using pure dart, implementing innovative **state management techniques and rendering optimizations**.
- Handling CI/CD for the team across all projects. Established **automated end-to-end testing for multiple projects**, detected several critical bugs and resolved issues related to test flakiness saving 40 developer hours every week.

INVOLVEMENT

CCExtractor — Remote

Volunteer — *Dec 2018 – Present*

- **Google Summer of Code '23, '24, Mentor**, guided and supported emerging developers in the program while continuing the legacy of contributions to CCExtractor.
- **Google Summer of Code 2021 Student**, developed a cross-platform desktop application for extracting subtitles from videos with diverse codecs and formats.
- **Google Code-In Finalist**, successfully competed with over 1500 students worldwide across diverse organizations. Accomplished over 25 tasks for CCExtractor, utilizing a broad range of technologies including Python, Dart, and Rust. Notably, designed a live profiler for Python code, offering users insight into the execution sequence, variable states, and changes at each code step.
- **Migrated CCExtractor's documentation from DokuWiki to Hugo and deployed it on Netlify**, enhancing accessibility and usability.

Matrix.org — Remote

Volunteer — *May 2022 – Present*

- **Matrix Conf'24 Berlin** - Delivering a talk on the Matrix Dart SDK, focusing on its features, benefits, and integration strategies.
- Active involvement with the matrix.org open source community, gave regular updates about the matrix dart SDK and MatrixRTC. Also **gave a MatrixRTC talk for FOSDEM'24** at Brussels, Belgium.
- **Google Summer of Code 2022, Student**: Collaborated on the flagship Matrix client, "FluffyChat", enhancing it with peer-to-peer calling capabilities and a rudimentary implementation of mesh calls.
- Volunteered at offline camps, notably the largest hacker camp, **CCC and Congress, Germany**. Provided essential contributions to event organization and logistical support for the matrix village.

Skills

Languages: Dart, Kotlin, Python, JavaScript, Rust

Technologies: Git, Flutter, WebRTC, Matrix, Node.js, Docker, Linux, CI/CD

Projects

- **B.Tech Final Year Group Project: "Neutrix"**: Created a privacy-focused social media platform built on the Matrix specification. Implemented audio and video calling capabilities and enabled interoperable messaging with platforms such as Signal, Telegram, and WhatsApp.

- **Warpspeed Hackathon Project: "Crossfire"**: Created a cutting-edge cross-chain bridge aggregator facilitating seamless asset transfers in a single click, earning top honors as the **winner of the CoinDCX track at the Warpspeed Hackathon**.

- **HackJaipur Hackathon Project: "CoronaXiv"**: Developed **award-winning CoronaXiv**, an ElasticSearch-driven AI Search Engine, recognized as the 'Best ElasticSearch-based Product' among 350+ teams nationwide at HackJaipur 2020. It indexes 60k+ research papers related to the global pandemic, aiding researchers in understanding and combating the virus.

- **tldr pages client**: Designed and optimized simplified man pages for common Unix and other commands, resulting in a highly popular tldr.sh client used by thousands worldwide, accessible across multiple platforms including Android, iOS, web, Windows, macOS, and Linux.

Honors & Awards

- **Global Rank 122 (2020)**: at CTFtime.org, doing CTF competitions with team.

- **Battle of Vars**: Runner-Up, in the Coding Contest Battle of Vars, held at MIT Pune.

- **CodeWars 4.0**: Runner-Up, in the annual Competitive Programming Contest held within the college with more than 100 participants.