

# HARSH KAPADIA

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## EDUCATION

### Boston University – The Graduate School of Arts & Sciences (GRS)

Master of Science in Computer Science (CGPA: 3.85 / 4.0)

Dec 2023

Boston, USA

- Courses: Transport Protocol 'Homa', Computer Networks, Network Security, Databases, Software Engineering

### University of Mumbai – Thadomal Shahani Engineering College

Bachelor of Engineering in Information Technology (CGPA: 9.02 / 10.0)

May 2022

Mumbai, India

- Courses: Web Dev., Computer Networks, Network Security, Database Management, Project Management

## SKILLS

**Web:** React.js, Express.js, Flask, HTML, CSS, JS

**Languages:** JavaScript, Java, Bash, Python, C

**Databases:** MySQL, MongoDB

**Platforms:** GitHub, Firebase, Heroku

**Tools:** Git, iperf3, Wireshark, Tcpdump

**CI/CD:** GitHub Actions

## EXPERIENCE

### Advanced Micro Devices (AMD), Inc.

Software Engineer Intern

May 2023 – Aug 2023

Austin, USA

- Built a web app to provision and manage Virtual Machines configured with debug software and scripts, user public keys, persistent storage and VNC to reduce server issue debug time by 10%, using KVM, Bash scripts, Express.js and React.js.
- Benchmarked network bandwidth (iperf3), memory bandwidth (STREAM) and CPU performance (DGEMM) of servers.

### NanoNet Technologies Inc.

Software Intern

Aug 2021 – Nov 2021

Remote

- Published two [OCR](#) and [Image Classification](#) SDKs to improve development time by 50%.
- Enhanced documentation by enforcing the OpenAPI 3.1.0 standard and adding more code samples.

## PROJECTS

### Git Graph | [React.js](#) | [Web app](#), [GitHub](#)

Jan 2022 – present

- A web app to visualize the graphs that Git creates to connect Commit, Tree and Blob objects internally.
- Takes an existing repository to generate graph visualizations for local branches and allows highlighting specific commits.
- Taught 100+ people the internals of Git using Git Graph in [my talks](#).

### Performance Comparison of TCP Versions | [iperf3](#), [GENI Testbed](#) | [Report](#), [GitHub](#)

Nov 2022 – Dec 2022

- Compared Congestion Window size responses of TCP Reno, TCP CUBIC, TCP Vegas and TCP BBR to network congestion.
- Compared the fairness of two TCP versions running simultaneously on the same connection.

### Git Internals | [Asciidoctor Jet](#) | [PWA](#), [GitHub](#)

May 2020 – present

- A PWA documenting and explaining the internals of Git.
- Explains the contents of the `.git` directory and the connections between Commit, Tree and Blob objects.

### HPS Gems | [PHP](#), [MySQL](#), [HTML](#), [CSS](#), [JS](#), [Heroku](#) | [Web app](#), [GitHub](#)

Oct 2020 – Dec 2020

- A JAMstack e-Commerce CRUD web app for selling raw gemstones.
- Uses the Fetch API to interface with the backend and the Web Components API to render products.

### OTC CatchUp | [Express.js](#), [Asciidoctor Jet](#), [Shell](#), [HTML](#), [CSS](#), [JS](#), [Deta](#) | [Web app](#), [GitHub](#)

Sep 2021 – present

- A web app for managing weekly OTC CatchUp Tech discussion sessions.
- Hosts session summaries and manages session joining links.

## EXTRACURRICULAR ACTIVITY

### Our Tech Community (OTC) | [ourtech.community](https://ourtech.community)

Jan 2020 – present

Organiser

- Started a Tech-loving open-to-all community with 500+ current members.
- Hosted 800+ hours of weekly [OTC CatchUp](#) sessions involving technical discussions, project showcases and talks.

### Talks | [talks.harshkapadia.me](https://talks.harshkapadia.me)

Jun 2020 – present

- Impacted 700+ people in 20+ talks and workshops at various technical meetups.
- Gave talks on 'Routing Using IP and MAC Addresses', [Git internals](#), etc.
- Conducted in-person talks on the internals of Git at TechTogether Boston 2022 and BostonHacks 2022.

### Articles | [networking.harshkapadia.me](https://networking.harshkapadia.me)

Dec 2020 – present

- Wrote in-depth articles on [Homa](#), [TLS](#), [SSH](#), [IP and MAC Routing](#), etc. by analysing packet captures.

### Hackathons

Sep 2019 – present

- Organised three editions of [TSEC Hacks](#) (2020-22) with 200+ in-person participants.
- Mentored and judged in-person at [HackMIT](#) 2022, [BostonHacks](#) 2022 and [TechTogether Boston](#) 2022.