HARSH KAPADIA

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EDUCATION

Boston University – The Graduate School of Arts & Sciences (GRS)   Jan 2024
Master of Science in Computer Science (CGPA: 3.6 / 4.0)   *Boston, MA, USA*
- Courses: Computer Networks, Transport Protocol 'Homa', Network Security, Operating Systems, Databases

University of Mumbai – Thadomal Shahani Engineering College   May 2022
Bachelor of Engineering in Information Technology (CGPA: 9.0 / 10.0)   *Mumbai, India*
- Courses: Web Dev., Computer Architecture, Computer Networks, Network Security, Database Management

EXPERIENCE

Advanced Micro Devices (AMD), Inc.   Jan 2024 – present
Field Applications Engineer   *Austin, TX, USA*
- Building a web app to provision, pool and manage virtual machines configured with user-requested software, public keys, persistent storage and VNC to reduce server issue debug time, using KVM, Bash scripts, Express.js and React.js
- Automating benchmark executions and operating system installs to improve the productivity of the team

INTERNSHIPS

Advanced Micro Devices (AMD), Inc.   May 2023 – Aug 2023
Field Applications Engineering Intern   *Austin, TX, USA*
- Built a proof-of-concept web app to provision and manage virtual machines configured with user public keys, persistent storage and VNC to reduce server issue debug time, 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.   Aug 2021 – Nov 2021
Software Intern   *Remote*
- Published OCR and Image Classification SDKs to improve development time by 50%
- Enhanced documentation by enforcing the OpenAPI 3.1.0 standard and adding situational code samples

SKILLS

Web: React.js, Express.js, Flask, HTML, CSS, JS   **Languages**: JavaScript, Bash, C, Java, Python
Databases: MySQL, MongoDB   **Tools and platforms**: Git, GitHub, Firebase

PROJECTS

Git Graph | *React.js* | Web app, GitHub, Talks   Jan 2022 – Jul 2022
- 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

Parse ELF | *C* | GitHub, Talk   May 2024 – Sep 2024
- A 64-bit Executable and Linkable Format (ELF) file parser in C
- ELF is the primary file format of executable files on Linux
- Prints the file header, the section headers, the segment headers and the dynamic dependencies of the ELF file

MAC and IP Routing | *Docker, tcpdump, Bash* | GitHub, Talk   Feb 2023 – Mar 2023
- A demonstration to illustrate how IP and MAC addresses work together to route packets
- Captures the MAC and IP packets in a network of clients and routers to understand how a machine can reach the other

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 2022 – Jul 2022
- 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

EXTRACURRICULAR ACTIVITY

Our Tech Community (OTC) | ourtech.community   Jan 2020 – present
Organiser
- Started a Tech-focused community with 500+ current members
- Hosted 800+ hours of OTC CatchUp sessions involving technical discussions, project showcases and talks

Talks | talks.harshkapadia.me
- Impacted 700+ people through talks on ELF files, Git internals, routing using IP and MAC addresses, and more

Articles
- Wrote articles on Git, ELF files, SSH, IP and MAC routing, Homa, TLS and more