

Ayush Agarwal

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EDUCATION

University of California, San Diego (UCSD)

Masters of Science in Computer Science

Coursework: Computer Security, Operating Systems, Virtualisation, Distributed Systems, Applied Cryptography

San Diego, CA

Mar 2021 - Dec 2022

Vellore Institute of Technology (VIT)

B.Tech in Computer Science and Engineering

Coursework: Operating Systems, Database Systems, Computer Networks, Software Engineering, Theory of Computation

Vellore, India

Jul 2013 - May 2017

SKILLS

C, Python, Rust, Node.js, C++, SQL, MongoDB, HTML, CSS, JavaScript, Git, Linux, Shell, GDB, nftables

EXPERIENCE

Meta Platforms, Inc. (formerly Facebook)

Software Engineer Intern

- Developed an automation framework to generate curated data pipeline definitions - to aid in regulating data usage for ads
- Designing and developing a bot to notify on policy changes and synchronize privacy policies on the curated data containers
- Technologies: Hack, Python, SQL

CA, USA

Jun, 2022 – Sep, 2022

VMware Inc.

Member of Technical Staff - Intern

- Developed a tool allowing users to drag and drop elements to create a workflow which could be executed on a testbed
- Designed & implemented the application end-to-end: UI, Flask server, execution service
- Technologies: Python, HTML, CSS, JavaScript, Angular, jsPlumb

CA, USA

Jun, 2021 – Sep, 2021

Cisco Systems Inc.

Software Engineer I-II

- Optimised remote attestation workflows enabling better integration of IOS-XR with Crosswork Trust Insights.
- Designed & implemented secure storage services for TPAs based on Cisco TAM allowing customers to store secrets on box.
- Delivered an automated solution for the long standing issue of duplicate symbols in the OpenSSL libraries in XR.
- Replaced the custom implementation of SSH on XR by integrating OpenSSH including all the features offered by XR SSH.
- Built a comprehensive dashboard to track RAM usage in XR & workflows to automatically populate the data nightly.
- Technologies: C, Linux, Trusted Computing, Python (Scripting & Automation); Secure Storage: Go, Vault APIs

Bengaluru, India

Aug, 2017 – Jan, 2021

PROJECTS

Tribbler (Mock Twitter) (UCSD, Distributed Systems)

- Designed and implemented a distributed, scalable, fault-tolerant and reliable key-value store in Rust
- Used the KV store to implement a Twitter-like application; Evaluated performance across 3 different replication strategies

2022

Sandboxing libopus in Firefox (UCSD, Computer Security)

- Sandboxed the Opus media library in the browser to reduce the attack surface with minimal impact to audio performance.
- Used the RLBox framework, measured performance impact; The changes made are in review for upstreaming

2021

VITacademics (VIT)

- Developed and maintained the client applications & the server API to scrape information off of VIT's academic portals.
- Helped 12,000+ students track their attendance, grades, timetables with ease.

2015 – 2017

ACHIEVEMENTS

- Won the **1st prize** in the CTF Challenge in Cisco SecCon (Cisco's Annual Security Conference), APJC region, 2020.
- Won the **1st prize** in the Cisco Service Provider Innovation Challenge (Internal Hackathon), India, 2018 & 2019
- **VIT Merit Scholarship:** Received **thrice** for being in the **top 1%** of my department, based on academic excellence.

RESEARCH & TEACHING

- **Graduate Student Researcher at PLSysSec:** Sandboxing third-party libraries in systems using the RLBox framework
- **Teaching Assistant:** Responsible for conducting discussion sessions, office hours, grading & preparing assignments.
CSE 30: Computer Organisation and Systems Programming (Spring '21, Fall '21, Winter '22)