

Varun Patil

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EDUCATION

University of California, Los Angeles

M.S. Computer Science

California, USA

2020 – Present

Indian Institute of Technology Bombay

B.Tech, Mechanical Engineering

Minor in Computer Science and Engineering, Institute Technical Roll of Honour

Mumbai, India

2016 – 2020

EXPERIENCE

UCLA

Graduate Student Researcher – Internet Research Laboratory

Los Angeles, California

Apr. 2021 – Present

- Conducting research on Named Data Networking with focus on distributed data synchronization protocols

Publications

- Moll, **Patil**, Sabharwal, Zhang, 2021. *A Brief Introduction to State Vector Sync*. TR-NDN-0073
- Authored the reference implementation of the State Vector Sync protocol and a demonstrative chat application
- Implemented a network and security simulator-visualizer ([NDN-Play](#)) for running experiments in the browser

IIT Bombay

Software Architect & Developer – Single Sign On, Computer Centre

Mumbai, India

Sep. 2019 – Sep. 2020

- Drafted a policy framework for enforcing multi-factor authentication on a diverse 10000+ organization
- Implemented an OAuth2/OIDC/SAML provider for authorization over LDAP-TOTP-FIDO authentication
- Implemented a very high performance geolocation provider ([GeoIPNS](#)) for suspicious activity detection
- Authored popular open source plugins for migrating [Nextcloud](#) and [Roundcube](#) webmail to OpenID Connect
- Conceptualized and developed Android and iOS clients for secure user-initiated passwordless authentication
- Integrated authentication with SAML federated identity for Azure Active Directory and Google Workspace

Institute System Administrator – Hostel Affairs Council

Apr. 2019 – Jun. 2020

- Led a 12-member student sysadmin team as the interface between Computer Center and all students
- Migrated the student datacenter infrastructure from KVM virtualization to LXC with High Availability

Overall Coordinator – Developers' Community

Apr. 2019 – Jun. 2020

- Led the community of software developers at the institute comprising of a 3-tier technical student team
- Developed a secure solution to digitize workflows in a decades-old system in emergency response to COVID-19

Mercari, Inc.

Backend Software Engineering Intern – Product Catalog

Tokyo, Japan

Jul. 2019

- Worked in an agile team to develop an industry-grade management tool for an arbitrarily large dataset
- Set up continuous integration and deployment over Kubernetes using CircleCI and Terraform

PROJECTS

InstiApp | Django, Angular, Android, Flutter

2018 – 2020

- Led a team of 20+ developers in developing a [FOSS](#) student activity platform stack with 8000+ active users
- Implemented a non-linear [model](#) to map real-time geolocation coordinates to an artistic isometric projection

Cross-Platform Aveyond | Ruby, C++, GLES, Java, WebAssembly

2015 – 2019

- Ported eight Windows games to Linux, macOS and Android using a popular open source engine
- Ported the GLES game engine to the web with Emscripten and adapted for asynchronous asset loading

TECHNICAL SKILLS

Advanced: Python, C++, JavaScript/TypeScript

Intermediate: C#, Visual Basic, Ruby, Java, Golang, PHP, Bash, C, Lua, Kotlin

Deployment: Docker, Kubernetes, LXC, KVM, QEMU, CircleCI, Spinnaker, Terraform