

# Varun Patil

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## EDUCATION

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### University of California, Los Angeles

*M.S. Computer Science*

California, USA

2020 – Present

### Indian Institute of Technology, Bombay

*B.Tech, Mechanical Engineering*

Mumbai, India

2016 – 2020

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

## EXPERIENCE

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### Computer Center – IIT Bombay

*Software Architect & Developer – Single Sign On*

*Sep. 2019 - Sep. 2020*

- Drafted a policy framework for enforcing **multi-factor authentication** on a **10000+ organization**
- Implemented an **OAuth2/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 OIDC
- Conceptualized and developed Android and iOS clients for user-initiated passwordless authentication
- Integrated authentication with SAML federated identity for **Azure Active Directory** and **Google Suite**

*Institute System Administrator*

*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
- Performed multiple on-site machine failure investigations and resolutions including hardware procurement

### Developers' Community – IIT Bombay

*Overall Coordinator*

*Apr. 2019 - Jun. 2020*

- Led the community of software developers at the institute comprising of a 3-tier technical student team
- Mentored and guided juniors for writing maintainable production quality code and performing deployments
- Developed a secure solution to digitize workflows in a decades-old system in emergency response to COVID-19

*Project Lead – InstiApp*

*Jan. 2018 – Jun. 2020*

- Led a team of 20+ developers in developing a **FOSS** platform for student activities in IIT Bombay
- Scaled the system robustly to 8000+ active users with frequent feature updates and 100% API test coverage

### Mercari, Inc. – Tokyo, Japan

*Backend Software Engineering Intern – Product Catalog*

*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

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**StateVectorSync** | *NDN, C++, TypeScript*

*Jan. 2021 – Present*

- Implemented a library set for a Named Data Networking transport for serverless dataset synchronisation
- Developed a peer-to-peer chat application in Angular for transport and security paradigm demonstration

**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

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**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