AYUSH SATYAVARPU

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EDUCATION

Cornell University, Tech Campus | M.Eng, Computer Science *Aug 2024 - May 2025* | **GPA:** 4.0
University of California, Irvine | B.S, Computer Science *Sept 2021 - June 2024* | **GPA:** 3.89
Relevant Coursework: Data Structures & Algorithms, Neural Networks, Computer Vision, Machine Learning, Computer and Network Security, Computer Networks, Operating Systems, Parallel Computing, Linear Algebra, Discrete Structures, Databases
Extracurriculars: Vice President of Technology - **Alpha Kappa Psi** | 2nd place, Cyber Collegiate Defense Competition - **Cyber @ UCI**

SKILLS & INTERESTS

Languages/Frameworks: Objective-C, C/C++, Python, Swift, SwiftUI, UIKit, Java, JavaScript, GoLang, MIPS, React, TypeScript, SQL
Software: XCode, AWS, Docker, Linux, Git, Google Cloud Platform (API, JS SDK), Firebase, Android Studio, MongoDB, Jenkins CI/CD
Interests: Cybersecurity, Game/Web Development, AI, Machine Learning, Cloud Computing, AR/VR, Finance

PROFESSIONAL EXPERIENCE

APPLE **Cupertino, CA**
iOS Software Engineering Intern *June 2024 - Present*
- Developed a proof of concept project for iOS18 allowing filtering via a button over existing notifications based on active Focus mode
- Utilized **Objective-C** and **UIKit** to add new views to the Lock Screen, manage notifications, and patch production iOS 18 bugs
- Rearchitected how notifications interact with Focus to a **Pub/Sub** model, reducing a daemon's uptime by **~90%**, saving **8 MB** on avg

APPLE **Sunnyvale, CA**
Health Backend Software Engineering Intern *June 2023 - Sept 2023*
- Improved upon Apple internal tools that allow employees to manage and test the Health app's interaction with hospital APIs
- Implemented **Java** API endpoints that allow specific data filtering, integrated with caches to reduce **Cassandra DB** calls by ~300%
- Used **React** and **TypeScript** to develop a new UI that adheres to Apple's Human Interface Guidelines and added data summaries to help users quickly understand patterns between passing and failing APIs, and identify large scale incidents
- Placed in the top **10** out of **150** teams in an Apple intern innovation contest (iContest) and presented new ideas to **7** Apple VPs

UC IRVINE STUDENT CENTER AND EVENTS SERVICES **Irvine, CA**
Full Stack Web Developer, Security Engineer *September 2022 - Present*
- Engineered and debugged thousands of lines of **Angular** code to produce an internal employee management system for UC Irvine's student center and a liability waiver form used to collect large amounts of legal data for events
- Developed and migrated **.NET & C#** products from outdated, insecure authentication schemes (UCI WebAuth) to higher security **Shibboleth** IDP authentication schemes by redeploying products on different servers, and generated **SAML JWT** local auth tokens
- Utilized **AWS** to combat hack attempts by deploying a reverse proxy and firewall rules reducing malicious probes by **80%**
- Wrote C# code to interact with a Microsoft **SQL Server** database with more than **10,000** rows to effectively sort and display info

VMWARE **Palo Alto, CA**
Security and Compliance Engineering - Software Engineering Intern *June - September 2022*
- Saved **~30** hours/week of engineering capacity by implementing products in **GoLang** that allowed engineers/stakeholders to automate audit evidence gathering from compliance data sources like GitLab and AWS for compliance with **PCI & SOC2 regimes**
- Automated evidence bundle generation with compliance metadata such as attestation info, version history, release tags, and anti-tampering security features such as **SHA256** checksums
- Wrote algorithms to scan internal VMware services and Git branches in order to collect production code for presentation to auditors

INVIGRID **Sunnyvale, CA**
Full Stack Software Engineering Intern *June - September 2021*
- Patched **~70**% of fatal security vulnerabilities by developing a backend API in **Node.js** that performs security scans on **Google Cloud Platform** projects and internal resources (VMs, VPCs, Storage Buckets, SQL Instances) to find and remediate **86** of the most common security vulnerabilities, such as configuring firewalls to protect unauthorized SSH or disabling insecure service accounts
- Designed and programmed a multipage portal using **HTML, CSS,** and **JavaScript** where users can detect and patch any vulnerabilities found in their projects, configure and select projects to review, and author new security policies

PROJECTS

PETERPORTAL
- Developed features of a website that describes UC Irvine courses, professor reviews, grade distributions, and course planners
- Used **React.js** and **Redux** to implement upvoting and downvoting on user reviews of courses and professors, allowing fellow students to share opinions without writing a full review
- Wrote backend **TypeScript** that validates users as UCI students using Google Authentication and communicates with a **MongoDB** NoSQL database to store 10,000+ documents of vote data, course reviews, and reported/flagged reviews
- Redesigned database schema to scale with spiking user reviews and votes, minimizing database calls by 70% on average

CIFAR-10 TRAINER
- Trained a K nearest neighbors, Decision Tree, Logistic Regression, and MLP Neural Network classifiers on the CIFAR-10 CV dataset
- Manually implemented the ML classifiers in **Python** and **NumPy** and analyzed data patterns predicted by each classifier
- Utilized **SciKit Learn**, **PyTorch**, and **Matplotlib** to visualize results & understand pros and cons of each algorithm for CV application