

# Tushin Kulshreshtha

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## Summary

Computer Science undergraduate with diverse internship experiences in full stack and cloud-based software development. Successfully designed REST APIs, improved system performance, and collaborated in Agile environments. Proficient in Git version control, troubleshooting, and adapting to new technologies, with a strong foundation in web applications and cloud services. Demonstrates effective teamwork and problem-solving skills, aligning well with innovative, fast-paced development projects.

## Skills

- **Programming Languages:** Python, Java, JavaScript, C, C++, Assembly (MIPS), Spring Boot
- **Web Development:** HTML, CSS, Django, React, Next.js, Node.js, RESTful APIs
- **Database Management:** MySQL, MongoDB, Azure SQL Database, PostgreSQL
- **Cloud And Hosting:** AWS (EC2, Lambda, S3), Docker, Caddy, Vercel, Linux
- **Version Control:** Git, GitHub
- **Soft Skills:** Teamwork, Communication, Decision-Making, Customer Service, Networking, Stress Management

## Education

### San Francisco State University

Aug 2021 - Dec 2025

*Bachelor of Science, Computer Science (GPA: 3.95)*

- **Coursework:** Data Structures and Algorithms, Programming Methodology, Web Development Fundamentals, Machine Structures, Database Management Systems, Programming Fundamentals, Operating System, Software Development

## Experience

### MeetX | AI Intern

Feb 2025 - Present

- Developed a hybrid recommendation system using collaborative filtering and content-based approaches.
- Implemented content-based modeling to address cold-start issues, enhancing new activity recommendations.
- Leveraged XGBoost and TensorFlow for scalable, accurate predictions, improving user experience.

### Site Service Software Inc | Software Engineer Intern (Full Stack)

Aug 2024 - Present

- Collaborated with the CTO and 4 developers to transition legacy infrastructure to React and Spring Boot.
- Designed and implemented 20+ REST APIs for CRUD operations, boosting query efficiency by 30%.
- Strengthened system security by enhancing authentication and data encryption, significantly reducing vulnerabilities.

### Glitter Fund | Lead Software Developer Intern

Jan 2023 - Dec 2023

- Led a team of 3 to successfully develop and launch a Django-based stock options filtering platform.
- Enhanced system responsiveness by integrating Tradier API, achieving a 30% reduction in request latency.
- Engineered an innovative filtering tool tailored for portfolios under \$1000, increasing market accessibility for entry-level investors.
- Deployed robust infrastructure on AWS EC2, delivering 99.9% uptime and significantly improving application scalability.

## Projects

### Server Manager for Raspberry Pi Cluster

- Developed a dashboard for a Raspberry Pi cluster (1 main, 2 helpers), cutting manual server intervention by 80%.
- Enabled real-time CPU, memory, and network tracking, reducing downtime by 40% and enhancing response time.
- Automated updates and restarts with PM2, halving deployment time.
- Created an iOS app in SwiftUI for remote monitoring, streamlining maintenance efforts by 30%.
- Configured Caddy as a reverse proxy, enhancing security and request handling efficiency by 35%.

### Serverless Video Processing

- Built a serverless video pipeline with AWS Lambda, FFmpeg, and S3 for automated transcoding.
- Cut execution time by 40% and minimized costs through efficient memory management.
- Applied S3 pre-signed URLs and event filtering to prevent infinite processing loops.

### Custom Linux File System

- Designed a virtual Linux file system utilizing Logical Block Addressing (LBA) for efficient disk storage management.
- Implemented a File Allocation Table (FAT) to manage free space, optimizing disk usage and performance.
- Developed core file system operations (create, read, write, delete, modify) and Linux shell commands (ls, cd, mkdir, rm) using C/C++.
- Built and tested within a Docker container environment, gaining hands-on experience with container technologies.

### API Gateway with Rate Limiting & Security

- Developed a self-hosted API Gateway using Caddy reverse proxy with automatic TLS for secure traffic.
- Implemented Redis-based rate limiting (100 requests/min), reducing unauthorized access attempts by 60%.
- Applied Auth0 JWT authentication to safeguard API endpoints.
- Enhanced API response times by 40% with load balancing across microservices.