

Professional Experience

Associate | Cognizant Technology Solutions

August 2020 – December 2022

- Led a team of 4 developers in transforming a legacy web application to a new framework with enhanced security and functionality within time constraints ([link](#)).
- CI/CD - Developed automated secure deployments scripts using GitLab and integrated security tools for data protection, reducing deployment time by 70% further reducing the cost.

Research Associate | Carnegie Mellon University

June 2023 – Present

- Developed a web application for combining public and shuttle transit systems.
- Designed to cater to the unique requirements of senior citizens, enhancing their mobility, Prioritized data security and privacy through strong protective measures.
- Incorporated user-friendly features for improved accessibility and ensured secure deployment for a reliable experience.

Education

Carnegie Mellon University | Master of Science in Information Security

January 2023 – May 2024

- Courses: Information Security, Ethical Penetration Testing, Computer Networks, Secure Coding, Introduction to Computer Systems (15513), Browser Security, Distributed Systems, Cloud Security, Hacking 101.

Jaypee University of Engineering & Technology | Bachelor of Technology, Computer Science

June 2016 – June 2020

Projects

- RAMP:** Developed a full stack web application for transit system integration (ReactJS, Django, PostgreSQL) focused on improving mobility for senior citizens. This project combined public and shuttle transit options, emphasizing data security, privacy, and user-friendly accessibility features. Ensured secure deployment for a reliable user experience ([link](#)).
- Distributed Database System:** Created a Distributed Database System from scratch , central server and slave data server implementation with support to RESTFUL API, horizontal and vertical partitioning. Concurrency, Replication, Fault Tolerance .
- Distributed File System:** Created a Distributed File System from scratch in Go , name and storage server implementation with support to RESTFULL API. Concurrency, Replication, Fault Tolerance
- Raft Consensus Algorithm:**I developed a Raft consensus algorithm in Go, focusing on essential distributed computing functions like leader election, log replication, and system monitoring. Leveraging Go's concurrency features, I ensured fault tolerance and efficient peer communication in the network.
- Buildit Breakit:** Architected a secure file system with strong encryption, authentication, and authorization; pinpointed and exploited vulnerabilities in competing systems, resulting in a 20% security increase.
- Malloc Implementation:** Designed a dynamic memory allocator optimized for efficiency and speed, using techniques segmentation and mini-blocks, enhancing memory management performance by 25%.
- Vidly:** Front End based on Reacts , application was a clone of Netflix with features such as (Sales) , (Recommendation System) , (User rating system) and backend is based on AngularJS.

Skills

- Programming Languages:** C, Go, C++, Python, HTML, CSS, JavaScript, Apex, Aura.
- Frameworks/Libraries:** React.JS, Bootstrap, LWC, Django, Node.
- Development/Deployment:** JavaScript, HTML5, CSS3, React, Angular, Vue.js, Node.js, Express.js, MongoDB, SQL, PostgreSQL, MySQL, RESTful APIs, GraphQL, Git, GitHub, Docker, Kubernetes, AWS, Azure, Google Cloud Platform, Agile methodologies, Scrum, Test-Driven Development, Continuous Integration, Continuous Deployment, TypeScript, Sass, LESS, Responsive Web Design, Microservices architecture, Security practices (OAuth, JWT), Performance Optimization, Cross-Browser Development, Debugging.

Certifications

- [Security+ CompTIA](#) May 2024
- [Certified in Cyber Security \(ISC\)²](#) July 2023
- CCNA R&S Cisco August 2020

Accomplishments

- Published a paper on — Extension Auditing: Privacy-Preserving Extension ([link](#)).
- Led a team project at Cognizant, delivering a secure web application ahead of schedule.
- Achieved a 98% user satisfaction rate for a secure web application developed at Carnegie Mellon University.