Akshyan Anandakrishnan

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Education

Carnegie Mellon University Pittsburgh, PA
MS in Computer and Information Systems - Security (GPA: 3.73)

The National Institute of Engineering Mysuru, IN
Bachelors of Science in Computer Science (GPA: 3.61)

Skills

- **Programming Language:** Java, JavaScript, Python, C, Golang
- **Technical Skills:** Distributed Systems, Database Systems, Deployment Setup(CI/CD), Microservice Architecture(REST and gRPC), Unit Testing, Automation Testing(Selenium), Object Oriented Design(OOD)
- **Tools and Frameworks:** Angular, React, Node.js, Springboot, REST API & GraphQL, Azure, AWS, Git, Jenkins JIRA, Github Actions, MySQL & Oracle SQL & PostgreSQL, Docker, Kubernetes, SpringJPA, Spock & JUnit, Django, Flask, Pytest, OpenSSL, Kerberos, OAuth, Libsodium, Kubernetes, Terraform , Ansible, OpenSSH, Hadoop, NoSQL, DynamoDB, Elasticsearch, Kafka & Spark

Experience

Xage Security Senior Software Engineer
Mountain View, CA *Apr 2023 - Present*

- **Extended Apache Guacamole for Multi-Monitor Support (Web-Based RDP/VNC):**: Conducted research and contributed to Apache Guacamole, an open-source project, to implement multi-monitor support, resulting in a 15% revenue boost; also established a robust CI/CD pipeline using GitHub actions and Jenkins.
- **Revamped HTTP Proxy for Enhanced Scalability**: Overhauled and generalized an existing Golang HTTP proxy, which served as the backend for a React frontend through which customers proxied various HTTP applications in Xage products, resulting in increased customer satisfaction, expanded product adoption, and improved scalability.

Carnegie Mellon University Pittsburgh, PA
Research Assistant - Under Professor Dr.Alessandro Acquisti *Jan 2022 - Apr 2023*

- **Ad-block-Research Project (Chrome Extension, Privacy Experiment)**: Enhanced a Chrome extension for a large-scale field experiment investigating the effects of ad-blocking technologies and extensions on user privacy, resulting in a remarkable 60% performance improvement through the introduction of caching and local storage mechanisms.
- **Anti-tracking Methods Implementation (Research Extension, Data Collection):** Conducted research, compiled, and implemented anti-tracking and PII removal methods within a research extension, primarily centered on GDPR, DMA, and CCPA compliance, by using CSS filters and opt-out cookies.

JP Morgan Chase Bangalore, IN
Software Engineer II *Jan 2019 - Dec 2021*

- **Application Modernization-Cloud Migration**: Planned and executed migration of applications belonging to document management team from physical servers to cloud, reducing cost and greatly increased speed of applications.
- **Security Framework**: Incorporated a zero-trust solution to legal infrastructure using AD, Kerberos and OAuth2, achieving a password-less call to-from an application, increasing security of all document management products on cloud.
- **Efficient Storage**: Devised a reusable solution, zipping documents on the fly and streaming data directly to cloud storage, reducing CPU usage by 50% and enhancing speed of overall application. Followed Test Driven Development(TDD), covering 100% unit test.
- **Refile Services**: Developed a application to auto correct legal documents, when a legal user edits document belonging to a category, resulted in increased efficiency to 60% by eliminating redundant tasks. Followed TDD, covering 90% unit test.
- **Legal Dashboard**: Collaborated with legal team to create full-stack web application, improving customer experience and streamlining document management. Followed Test Driven Development(TDD) with 90% unit test coverage for frontend and 95% for backend.
- **Credit Risk Mapping (Internship Project)**: Created proof of concept for mapping various credit risk to its respective facilities using Apache Kafka, supporting team to stream data directly to their processing endpoint instead of employing a secondary storage.

Projects

- **PVInsight GISMo Project (React, Django, Collaboration with Stanford Scientists):**
  Collaborated closely with a team of Stanford scientists to develop and maintain a service using React and Django, aimed at managing algorithms for Photovoltaic systems, resulting in a remarkable 45% increase in developer efficiency.
- **In-Memory Cache(Set Associate)**
  Designed and implemented a high-performance cache using set-associative mapping and a blocking mechanism in Systems class.
- **Dynamic Memory Allocation**
  Implemented a highly efficient memory allocation system using a red-black tree structure to manage free blocks, achieving optimal block utilization and peak performance.
- **Secure Logging System**
  Developed a secure logging system in C language for a museum that utilized AES encryption with libsodium to ensure complete security of logs, and using optimal DSA ensuring high throughput and performance.