

Statement of Purpose

Introduction

My name is Venkata Srimannarayana Yasam, and I am a dedicated software engineer with a strong passion for building secure, scalable cloud-native applications. Currently based in Atlanta, Georgia, I bring a unique combination of academic excellence and hands-on industry experience in developing enterprise-grade solutions for the financial services sector. My journey in technology has been driven by a commitment to innovation, security, and delivering high-impact solutions that solve real-world problems.

Educational Background

I completed my Master's degree in Computer Science from Kennesaw State University in Marietta, Georgia, in May 2025. This graduate program, which I pursued from January 2024 through May 2025, provided me with advanced knowledge in cloud computing, software architecture, and modern development practices. Prior to this, I earned my Bachelor of Technology degree in Information Technology from VVIT University in India, completing my undergraduate studies in May 2023 after four years of rigorous academic training from August 2019 to May 2023.

Professional Experience

I have accumulated over 2 years of professional software engineering experience, working with leading organizations in the technology and financial services industries. My career has been marked by progressively challenging roles where I have contributed to critical projects involving cloud security, microservices architecture, and regulatory compliance.

Current Role

I am currently employed as a Software Engineer at Capital One, a position I have held since July 2025. In this role, I work on developing and securing mission-critical banking applications that serve thousands of customers daily. My responsibilities encompass the full software development lifecycle, from design and implementation to deployment and maintenance of cloud-native applications.

At Capital One, I have been instrumental in developing secure credit card service integrations using Spring Boot microservices architecture. I built a robust system that allows over 5,000 users to manage their credit limits, update contact details, and request limit increases through PCI-DSS compliant API endpoints. This work required implementing OAuth 2.0 authentication and deploying services on AWS EC2 infrastructure behind Application Load Balancers, all secured with TLS 1.3 encryption to meet stringent banking security standards.

One of my key contributions has been designing and developing an approval-based email notification system that leverages Java Mail API, Spring MVC, and JDBC. This system captures customer approvals through secure links and persists responses in AWS RDS, with email delivery handled through Amazon SES. The solution has streamlined customer communication workflows while maintaining the highest security standards.

I also spearheaded the development of an enterprise-grade Multi-Factor Authentication (MFA) solution, implementing dual-channel verification through email and SMS. This project involved using Spring Security and Spring Boot with custom OTP generation libraries, where OTP secrets are encrypted using AWS KMS, stored in RDS with cryptographic hashing, and verified through stateless JWT-based session management. This enhancement significantly strengthened the security posture of our applications.

Additionally, I have focused on improving API security by migrating our encryption approach from AES-CBC with PKCS5 padding to AES-GCM. This migration enhanced data integrity by mitigating padding-oracle vulnerabilities, with all encryption keys managed through AWS KMS and enforced via IAM roles. I also actively administer AWS IAM roles and policies to enforce least-privilege access across various AWS services including EC2, RDS, SES, and KMS, ensuring our deployments align with banking security and compliance standards.

Previous Experience

Before joining Capital One, I worked as a Software Engineer at Cognizant Technology Solutions in Bangalore, Karnataka, India, from August 2022 to December 2023. During this approximately 16-month tenure, I gained valuable experience working with enterprise clients in the banking sector.

At Cognizant, I developed Spring MVC modules for customer account creation systems that ensured banking compliance while supporting over 20,000 monthly registrations. I led the Locker Management Phase II project, implementing multithreading capabilities for

check-in and check-out tracking, automated daily checkout processes, and email alert systems that significantly reduced manual operational effort.

I also integrated Geo-tagging and Digilocker APIs to automate location and document verification processes, improving efficiency and accuracy. A notable achievement was engineering an AES + RSA hybrid encryption system for secure API communication, which successfully processed over 20,000 daily requests while maintaining the highest security standards.

Furthermore, I automated failure reporting using Spring Schedulers and Java Mail API, generating comprehensive Excel reports from live databases for more than 10 stakeholders. I implemented PL/SQL procedures with AES-256 encryption to archive over 4 million sensitive records on AWS RDS, which improved query performance and ensured regulatory compliance.

Client Experience

Throughout my professional career, I have worked extensively with clients in the financial services and banking industry. At Capital One, I directly contribute to serving the bank's extensive customer base, developing solutions that impact thousands of end-users who rely on secure and efficient credit card management services. My work involves collaborating with internal stakeholders across product, security, and operations teams to deliver compliant and customer-centric solutions.

During my time at Cognizant Technology Solutions, I worked on projects for banking clients, developing systems that handled high-volume transactions and sensitive customer data. These projects required strict adherence to banking regulations and security protocols, experiences that have shaped my understanding of building enterprise-grade applications in regulated environments.

Technical Expertise

My technical skill set spans a comprehensive range of technologies and platforms. In backend development, I am proficient in Java, Spring Boot, Spring MVC, Microservices, Spring Cloud, REST APIs, Multithreading, and Python. I have extensive experience with databases including Oracle SQL, MySQL, MongoDB, and PL/SQL (Procedures, Cursors, Triggers).

On the frontend, I work with React.js, JavaScript (ES6+), HTML5, and CSS3. My cloud and DevOps expertise includes AWS services (ECR, ECS, Fargate, EKS, Lambda), CI/CD pipelines, Git/GitHub, Maven, Postman, Docker, and Kubernetes. I hold professional certifications as an AWS Cloud Practitioner and AWS Solutions Architect Associate (SAA-C03), validating my cloud expertise.

Notable Projects

Beyond my corporate responsibilities, I have developed several innovative projects that demonstrate my ability to solve practical problems using cloud technologies. These projects are publicly available on my GitHub profile at <https://github.com/srimannarayana-yasam>.

One significant project is my Automated Cost Governance system on AWS, which implements automated detection and elimination of wasteful AWS resources such as idle EC2 instances, unattached EBS volumes, and outdated snapshots. I built this using SSM Automation workflows with Python-based cleanup scripts, SNS approval mechanisms, and S3 lifecycle policies to establish repeatable, governance-controlled cost optimization.

Another notable project is my Real-Time AWS Operations from Slack system, which eliminates context-switching between AWS Console, CloudWatch, and dashboards during incidents. This ChatOps automation enables engineers to receive real-time alerts and trigger remediation actions directly from Slack, implemented using AWS Chatbot, EventBridge, Lambda, and IAM role-based access control, significantly reducing mean time to recovery.

Employment Status and Future Plans

I am currently employed in a permanent, full-time position at Capital One, where I have been contributing since July 2025. This is not a contract role; I am a regular employee with the company, working on long-term strategic projects that are critical to the organization's technology infrastructure.

Regarding relocation, I am open to relocating for the right opportunity. While I am currently based in Atlanta, Georgia, I understand that excellent career opportunities may exist in other locations, and I am flexible and willing to consider relocation to advance my career and contribute to innovative projects. My previous experience relocating from India to the

United States for my master's degree demonstrates my adaptability and willingness to embrace new environments.

Career Aspirations

Looking forward, I am committed to continuing my growth as a software engineer, with particular focus on cloud security, distributed systems, and building scalable solutions that make a meaningful impact. I am eager to take on increasingly complex challenges, contribute to innovative projects, and work with teams that value technical excellence and continuous learning.

My combination of strong educational foundation, diverse professional experience across multiple organizations, proven track record in delivering secure cloud-native applications, and certifications in AWS technologies positions me well to contribute effectively to any organization seeking a dedicated and skilled software engineer.

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