

# Sumanth Pandugula

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Durham, North Carolina

## Summary

Startup-minded engineering leader with 10+ years of experience building and scaling modern SaaS platforms, leading 0→1 product development, and architecting cloud-native systems in financial services and insurance. Expert in designing secure, scalable systems using AWS, microservices, and event-driven patterns, with a strong track record of aligning engineering execution with business goals in fast-paced, high-growth environments. Authored Gen AI whitepapers with AWS, led SaaS transformation initiatives, and won 15+ global hackathons including Facebook Global Finals and TechCrunch Disrupt—demonstrating rapid iteration, innovation, and technical leadership under pressure.

## Education

**M.S, Computer Science** **GPA: 4.0/4.0** **May 2017**  
University of Illinois at Chicago, IL, USA

**B. Tech, Computer Science Engineering** **GPA: 4.0/4.0** **May 2015**  
SRM University, Chennai, Tamil Nadu, India

**Research Intern** in Education Technologies at **Carnegie Mellon University**  
Worked on adaptive learning algorithms in the Education Technology Lab.  
Pittsburgh, PA, USA – September 2014 to February 2015

## Technical Skills

**Architecture & Cloud:** **AWS 3X Certified**, VPC, Route 53, ELB, CloudFront, API Gateway, IAM, EC2, EKS, Lambda, Step Functions, SNS, SQS, Glue/EMR, S3, Aurora, RDS, DynamoDB, DocumentDB, Bedrock, SageMaker, Secrets Manager, Azure, GCP, Kubernetes (EKS), Microservices, CI/CD, DevSecOps.

**Languages & Frameworks:** Java (Spring Boot), Python, C#, C, Node.js, JavaScript/TypeScript, React.

**Data & Integration:** Oracle PL/SQL, PostgreSQL, MongoDB, Snowflake, DataLake, ETL/ELT, REST APIs, GraphQL, gRPC, WebSockets.

**AI/ML:** Generative AI, OpenAI, Bedrock, Sagemaker, Gemini, LLaMa, other LLM integrations

**Other:** Event-Driven Architecture, Domain-Driven Design, Twelve-Factor App, Service Mesh, FinOps

## Work Experience

**Principal Architect, Office of the CTO, Vitech Systems Group** **2023 - Present**

- Led the **Innovation & Maintainability track on the Architecture Review Board**, shaping technical decisions across **15+ product teams** and scaling best practices across the enterprise.
- Architected and delivered a Usage Analytics platform (**POC to Production**) handling 1B+ data rows, **driving a 25% increase in upsell conversions** and providing key insights to product leadership.
- Spearheaded the technical strategy and authorship of a **multi-tenant SaaS architecture standard**, defining best practices around isolation, cost, and identity in AWS—now a reference for 200+ engineers.
- Led the **enterprise SaaS transformation**, breaking down legacy monoliths into **cloud-native, microservices-based systems**—reducing release cycles by 90% and unlocking rapid deployment velocity.
- Designed and implemented real-time **WebSocket architecture and event-driven data pipelines**, improving user responsiveness by 60% and laying groundwork for async communication across the platform.
- Authored and enforced **architecture governance frameworks for Gen AI, Serverless**, and distributed systems—standardized across the org and adopted as internal engineering policy.

- Acted as a **technical advisor to senior leadership**, aligning architecture roadmaps with OKRs, regulatory needs, and cross-org strategy.
- Authored Gen AI whitepapers in collaboration with AWS—recognized as foundational in shaping the firm's emerging AI strategy.
- Launched and **led internal hackathons** (80%+ participation), translating 20% of projects into production and building a culture of experimentation and delivery.

#### **Senior Technical Architect , Vitech Systems Group 2020 – 2023**

- Led **platform modernization efforts** across core insurance systems—migrating monoliths to **containerized AWS-based microservices** using EKS, S3, RDS, and API Gateway.
- Designed a **multi-cloud file abstraction system** to unify access across AWS, Azure, and on-prem—driving 60% operational gains and 90%+ cost reduction in storage operations.
- Built and deployed **AI/ML pipelines** for anomaly detection and claims forecasting, improving underwriting accuracy and risk modeling.
- Developed and demoed an **Alexa-integrated digital insurance assistant** at the company keynote, increasing customer engagement by 40%.
- Standardized DevOps workflows across product teams by implementing **GitOps CI/CD pipelines**, IaC via Terraform, and Jenkins-based automation.
- Delivered full-stack solution designs including **data, API, security, and deployment architectures**—partnering directly with business stakeholders and technical leaders.

#### **Software Engineer , Vitech Systems Group 2017 – 2019**

- Contributed to foundational back-end modules across billing, claims, and document management in Vitech's core insurance suite.
- Built reusable REST APIs using Java Spring Boot, improving system reliability and reducing onboarding time for developers by 30%.
- Created a Microsoft Word plugin integrated with core platform APIs—reducing report generation time by 60% and enhancing field productivity.
- Designed a WebSocket-based notification system, enabling asynchronous, real-time updates and improving user responsiveness.

#### **Web Apps Developer at University of Illinois Chicago March 2016 – May 2017**

- **Architected and developed the U-Pass digital transit management system**, streamlining fare pass operations for **15,000+ students**, reducing administrative overhead by **40%**, and saving students over **10,000+ hours annually**.
- Led a team of 2 developers in building **RESTful API services** to integrate with the **OrgSync API**, enabling real-time campus event updates and **improving student engagement by 30%**.
- Introduced **automation tools** for bulk data validation and import, reducing manual processing time by **70%** and significantly minimizing operational errors.

#### **Hackathon Projects**

*Participated in 30+ hackathons globally.*

##### **PlanPredict – Humana Data Challenge Winners, TechCrunch Disrupt SF '19**

Allows employees to select the cheapest insurance plan based on their previous claim history.

##### **OnReel News – 1<sup>st</sup> place at Facebook Global Hackathon Finals '15**

Lets users track developing stories around the world through videos taken by direct witnesses.