

# Venkatesh Kelam

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## Education

### Master of Science in Information Systems

Northeastern University, Boston, MA

Aug 2023 – Dec 2025

GPA: 3.95/4.0

### Bachelor of Technology in Information Technology

Anna University, India

Aug 2019 – May 2023

GPA: 3.6/4.0

## Work Experience

### Software Engineer Intern

Feb 2025 – Jul 2025

Ipser Labs, San Jose, CA

- Designed and maintained backend **Python microservices** in a distributed environment, collaborating with downstream **Java** services and addressing retry behavior and latency issues impacting system stability.
- Built **asynchronous data pipelines** (ETL) using Python, AWS SQS, and Lambda-style workers to extract data from APIs, transform payloads, and load results into relational and NoSQL data stores.
- Performed **parallel analytics on high-volume datasets** using load-testing results and telemetry data to identify bottlenecks and optimize latency and throughput.
- Leveraged **AWS (EC2, ECS, S3, DynamoDB, CloudWatch)** to deploy, monitor, and scale data-driven services in cloud environments.

### Software Developer

Apr 2022 – Apr 2023

Cybrowse Digital Solutions, Chennai, India

- Built enterprise-grade **Single Page Applications** using Angular and React, integrating REST APIs to rapidly deliver analytics and workflow tools to internal stakeholders.
- Developed **Java Spring Boot**-based REST APIs using Maven, layered architecture, request validation, and exception handling; integrated APIs with Angular frontend to reduce redundant calls by **30%**.
- Implemented comprehensive error boundaries and **asynchronous** state handling for **REST API** calls, reducing UI crashes and improving fault tolerance across production applications.
- Investigated and mitigated incidents by analyzing metrics, logs, & traces, reducing mean time to detection by **40%**.

## Projects

### Research Summarization System | Python, Streamlit, AWS, OpenAI

Dec 2025

- Designed a research summarization pipeline using **Streamlit** and **API Gateway** for document ingestion.
- Built an agent-based retrieval and reranking workflow integrating **OpenAI** summarization with **PostgreSQL**.

### Real Estate Website | React, Node.js, PostgreSQL, DynamoDB

May 2025

- Built a full-stack real estate web application with **React** and **Node.js** to support property search and filtering.
- Modeled relational property data in **PostgreSQL** and flexible listing metadata in **DynamoDB** for scalable querying.

### Healixity – Cloud Health Assistant | Go, Next.js, PostgreSQL, Redis

Feb 2025

- Built real-time health dashboards using a **Go** backend and **Next.js** frontend for low-latency monitoring workflows.
- Optimized REST APIs with connection pooling and query tuning, reducing latency from 450ms to **120ms**.
- Used **CloudWatch** metrics and logs to monitor performance and troubleshoot issues.

### EasyEmail – AI Email Assistant | Python, FastAPI, LangChain, Docker

Dec 2024

- Built FastAPI email summarization & search with LangChain & OpenAI embeddings, cutting manual triage time by **60%**.
- Implemented async batching with **SQS** and **AWS Lambda** to handle concurrent emails and prevent API throttling.

## Technical Skills & Certification

**Languages:** Python, Java, Go, JavaScript, TypeScript, SQL

**Backend & Systems:** REST APIs, Microservices, Spring Boot, Node.js, API design & versioning

**Databases:** PostgreSQL, MySQL, Redis, MongoDB

**Cloud & DevOps:** AWS (EC2, ECS, S3, DynamoDB, CloudWatch), Docker, Terraform, CI/CD pipelines

**Certification:** AWS Certified Solutions Architect – Associate

## Leadership & Activities

### Co-Founder — AI & Data Club

Aug 2024 – Dec 2025

Northeastern University

- Co-founded the AI & Data Club to promote hands-on learning in AI, data engineering, and applied systems.
- Organized peer-led projects and technical workshops to foster practical application of ML and data concepts.