

Dheepak Karan Elumalai Santhakumari

Boston, MA | (857) 339 6410 | elumalaisanthakuma.d@northeastern.edu | linkedin.com/in/dheepakkaran

EDUCATION

Northeastern University, Boston, MA Expected May 2028
Master of Science in Electrical and Computer Engineering | Concentration: Machine Learning & Computer Vision
Relevant Coursework: Data Structures & Algorithms, Machine Learning, Computer Engineering | **CGPA: 3.926**

Anna University, Tamil Nadu, India Jul 2022
Bachelor of Engineering in Electrical & Electronics Engineering

SKILLS

Programming: Java, C++, Python, SQL, JavaScript
Core CS: Data Structures, Algorithms, Object-Oriented Programming, Database Systems
Backend: Spring Boot, FastAPI, REST APIs, Microservices
Databases: PostgreSQL, MySQL, MongoDB
Cloud: Google Cloud Platform, AWS (S3, SQS, EC2)
Tools & DevOps: Git, GitHub, Docker, Maven, Linux, CI/CD, Nginx
Machine Learning: Scikit-learn, XGBoost
Certifications: IBM Artificial Intelligence and Data Science Professional Certificate

WORK EXPERIENCE

Guardian Life | Software Engineer | Chennai, IN April 2022 - July 2023

- Developed backend services using Java Spring Boot and Python FastAPI for insurance policy processing, improving scalability and reliability of customer-facing applications.
- Designed and maintained REST APIs using PostgreSQL, Apache Kafka and AWS services, automating asynchronous backend workflows and improving system scalability.
- Optimized database queries, indexing and concurrent request handling, improving API performance by 30%, reducing database latency by 25% and lowering application response time by 20%.
- Built secure Dockerized backend services with OAuth 2.0 authentication, improving deployment consistency and ensuring reliable access to enterprise applications..
- Collaborated with cross-functional teams to integrate machine learning models into backend services, improving recommendation accuracy by 85% while maintaining production-ready APIs.

PROJECTS

Scalable File Storage System July 2026

- Developed a cloud file storage platform using Java, Spring Boot, PostgreSQL and MinIO, enabling secure file upload, download and metadata management.
- Implemented chunk-based file storage, SHA-256 hashing and JWT authentication, improving storage efficiency and ensuring secure file access.
- Designed and implemented REST APIs, Dockerized the application and structured a modular backend architecture, improving maintainability and deployment consistency.

OrderFlow: Event-Driven Microservices Platform June 2026

- Developed an event-driven order processing platform using Java, Spring Boot, Apache Kafka and Docker, enabling scalable and reliable backend communication across microservices.
- Designed REST APIs, asynchronous messaging and a database-per-service architecture, improving system modularity and supporting independent service deployment.
- Validated the platform using 50,000 real-world transactions, achieving 331 orders/second with 100% successful order processing.

Equity-Agent: Automated Portfolio Management Platform May 2026

- Developed a backend portfolio management platform using Python, FastAPI and PostgreSQL, automating market data processing and paper trading workflows.
- Designed REST APIs for portfolio management, stock data ingestion and historical performance tracking, enabling reliable backend services.
- Integrated machine learning models into backend services and automated scheduled workflows using GitHub Actions, improving prediction accuracy and reducing manual effort.

LEADERSHIP & HONORS

- Contributor, **AI for India (GUVI) Guinness World Record Initiative** — collaborated with 1,00,000+ aspirants to learn and build a face recognition model at scale.
- Volunteered at a **family-driven school** (2024–2025), supporting programming lab sessions and helping maintain academic and financial records.