SUJENDRA JAYANT GHARAT

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EDUCATION

Northeastern University, Boston, MA — Dec 2025
Master of Science in Information Systems — **GPA : 3.68/4.0**
University of Mumbai, Mumbai, India — May 2018
Bachelor of Engineering, Electronics Engineering

TECHNICAL SKILLS

Languages: Python, JavaScript, TypeScript, Java, Bash
Backend/Frameworks: FastAPI, Django, Flask, Node.js, Express, React
ML/AI: PyTorch, Transformers (Hugging Face), LangChain, OpenAI SDK (GPT-4o, o4, GPT-5), Llama3
Cloud/DevOps: AWS, GCP, Docker, Kubernetes, Terraform, Git, GitHub Actions
Databases: SQL (MySQL, MSSQL), NoSQL (MongoDB, Firebase)

EXPERIENCE

Software Engineer Intern (Co-op) — Jan 2025 – Aug 2025
Xellar Biosystems — *Boston, MA*

- Developed a **FastAPI** microservice with **Redis** lookups that converts **16-bit** images on first load, stores derived results, and serves repeat requests from cache, achieving **0.4 second** median load time
- Built an S3 uploader in Python (**boto3**) with parallel uploads, retries, and conflict-handling rules (overwrite, rename, skip), ingesting **terabyte-scale data** in a non-versioned bucket
- Standardized raw microscopy data into a **canonical S3 structure** and auto-generated a **per-file manifest** used by the FastAPI service for Redis lookups and reliable retrieval
- Designed a **template-driven experiment tool** with a **React** front end and **Django** backend for **8 and 32 chip** organ-on-chip plates, enabling **reusable layouts** and **automatic drug and dose assignment** for consistent study setup

Graduate Research Assistant – AI-CARING | IMWUT submission (First Author, Nov 2025) — Feb 2024 – Aug 2025
Northeastern University – Khoury College of Computer Sciences — *Boston, MA*

- Deployed a **multi-stage pipeline** that extracts reminder intent from caregiver conversations and compiles it into AST-validated Python functions.
- Designed a feasibility checker using the OpenAI **o4 mini reasoning model** that validates reminders against available sensors and a **home layout graph** before generation, **preventing non feasible reminders**
- Deployed a low-latency **AWS IoT Core** to **gRPC** middleware streaming data from over 120 sensors (about 3,000 events per second) and achieved a 50% reduction in end-to-end latency.

Senior Software Engineer — Feb 2022 – Aug 2023
Capgemini — *Mumbai, Maharashtra*

- Orchestrated RESTful API calls for Multi-Modality AI using **Python** and **Flask**, achieving 40% improvement in response times
- Maintained 99.9% uptime, boosted scalability, and reduced resource costs by deploying applications on **Kubernetes** clusters with Agile methodologies
- Authored automation scripts using **Batch** and **Bash**, utilized by 50+ team members, reducing support dependencies by 40%

Software Engineer — Aug 2018 – Feb 2022
LTIMindtree — *Mumbai, Maharashtra*

- Led integration of 30+ third-party RESTful and SOA APIs in **Node.js**, collaborating with cross-functional teams and vendors
- Enhanced **REST API** performance by leveraging advanced concurrency and asynchronous patterns in **JavaScript**/**TypeScrip** and implementing **MongoDB** caching in Node.js, resulting in a 15% boost in response times and a 30% reduction in API calls
- Implemented **graceful shutdowns** and **process monitoring** in Node.js, reducing recovery time from errors by 50%, preventing resource leakage by 20%, and maintaining uninterrupted application operation with 99.9% uptime

ACADEMIC PROJECTS

Quant Stack Exchange Chat Assistant — Sep 2024 – Oct 2024

- Developed FinRobot, a generative AI chat assistant for quantitative finance using AutoGen with RAG, delivering context-aware answers with approximately 85 percent response accuracy.
- Engineered a scalable knowledge layer with a daily Python scraping pipeline that ingests Quant Stack Exchange into Neo4j (knowledge graph) and Pinecone (vector index) to enable fast, entity-aware retrieval.

Cloud Native Web App Jan 2024 – Apr 2024

- Provisioned **Packer** and **Terraform** to provision pre-configured machine instances, resulting in a 75% reduction in configuration time and facilitating swift deployment of infrastructure changes
- Implemented **serverless** user verification system with **Cloud Function** for email verification and tracking in **Cloud SQL**