Nishant Routray

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EDUCATION

Master of Science: Computer Science   August 2023 - May 2025
University of Florida, Gainesville   *GPA: 3.85/4*
Bachelor of Technology: Computer Science   July 2016 - July 2020
Veer Surendra Sai University of Technology, India   *GPA: 3.7/4*

SKILLS

Languages & Databases: Python, C/C++, Java, JavaScript, TypeScript, HTML5/CSS3, SQL/PostgreSQL, Oracle, MongoDB, Amazon S3, Redshift, Redis, Firebase, InfluxDB
Frameworks: React, Redux, Kafka, Spring Boot, Node.js, Express, OpenAI Agents, LangGraph, Flask, GraphQL, REST
Tools & Platforms: AWS, Azure, Docker, Kubernetes, Grafana, JUnit, Mocha, Chai, Jenkins, Maven, Ansible, Postman, Swagger, Git, Bitbucket, Linux

EXPERIENCE

Software Developer (GenAI)   May 2024 - Present
Motorola Solutions   *Chicago, Illinois, USA*

- Designed complex agentic workflows with multi-agent collaboration for dynamic radio accessory replacement queries, reducing manual lookup time by **85%** and delivering instant recommendations in under **5 seconds**.
- Optimized chunking granularity of **500MB+** of PDF manuals for radio accessories ranging from batteries, earpieces to holsters, to enable AI-driven part replacement retrieval with **90%** query response accuracy.
- Developed a multi-agent **GenAI** chat assistant using **LangGraph & Open AI Function Calling**, enabling autonomous **AI agents** for natural language to SQL conversion, and saving an estimated **60 hours per week**
- Achieved **97%** query translation accuracy by employing prompt chaining and few-shot learning with **RAG**, leveraging **FAISS** index and **Azure AI Search** to effectively handle complex schemas and joins
- Executed SQL queries on Amazon **Redshift** and transformed results into natural response using LLM within **10 sec**
- Succeeded on creating, COCO, a compliance bot to monitor and prevent **privacy breaches** within **Google Chat**

Software Developer (Fullstack)   August 2020 - July 2023
Credit Suisse (Currently UBS Group AG)   *Pune, India*

- Engineered vital microservices with **Spring Boot** and **Kafka** for AMER & G20 Regulatory Reporting to DTCC. Seamless transmission of 1M+ trades/day to regulators, rigorous UAT performance tests and PROD deployment
- Crafted **React-Spring Boot** portal, empowering users to track over **1M** live trade status and SLA breaches
- Leveraged Ignite caches to turbocharge performance and load time by an impressive **40%**
- Achieved **$100,000** Oracle DB cost reduction by deploying an archival component. Implemented data migration for older data to **SybaseIQ**, ensuring seamless partitioning and remarkable 100% database health
- Led the development of a **Node.js** and **React** based event-driven web app reducing process monitoring time by **30%**. Integrated Oracle and **InfluxDB** for **Grafana** dashboard to monitor the process status of **10+** servers
- Implemented a seamless process scheduling and control system with a robust UI and logging, reducing server dependencies and granting administrators full command of 10+ servers, resulting in a **25%** decrease in downtime.

Software Research Intern (C++)   May 2019 - December 2019
SWAN Lab, Indian Institute of Technology   *Kharagpur, India*

- Enhanced underwater wireless sensor network routing through innovative layer-wise hop transfer, yielding significant performance improvements of **50%** across various metrics compared to existing research papers
- Demonstrated maximum packet delivery, minimal latency, and improved energy efficiency using Game Theory, supported by NS3 and **C++** simulations, achieving remarkable advancements in performance

PROJECTS

JARGO: Tech Jargon Translator ↗

- Developed a RESTful **GenAI** app using Python and Flask to simplify technical terms, reducing IT ticket resolution time by **100 man-hours per week** and improving team productivity by **25%**

Intelligent Data Processing and Redaction Pipeline for Public Safety Analysis ↗

- Download and parse more than **1000** daily incidents related PDFs, extracting critical fields and storing in SQLite
- Sensitive data censorship using **spaCy** for Named Entity Recognition (NER) by redacting **90%** of sensitive details
- Data Augmentation by leveraging **OpenMeteo's Historical Weather** and **Google Maps** API for data enrichment

Human-Elephant Conflict ↗

- Implemented camera-based elephant detection system triggering bee sounds reducing intrusion by **70%**
- Achieved rapid response times by notifying the forest department via **Twilio** with live images and location details in under 1 minute, facilitating prompt intervention and wildlife protection