Ganapathy Subramaniam Sundar

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Checkout my recent Gen AI personal Featured section of my linkedin and my website

EXPERIENCE

AI/ML Development Intern | Nokia | Canada | January 2025 – Present

- *Designed AI Architectures:* Engineered cutting-edge software architectures for in-house AI products using **RAG**, ensuring seamless knowledge retrieval and peak system performance.
- *Built LLMOps Pipelines:* Created and optimized scalable LLM-Ops pipelines, streamlining model lifecycle from fine-tuning to deployment and monitoring.
- *Optimized LLM Performance:* Monitored and enhanced LLM metrics, driving accuracy, efficiency, and real-time optimization.
- *Developed Vector Database Schemas:* Crafted advanced vector database schemas, enabling superior retrieval and scalability for AI-driven solutions.
- *Leveraged Azure ML Studio* to design and manage impactful AI workflows and models for business transformation.
- *Created Autonomous AI Agents:* Designed intelligent AI agents capable of automating tasks, making decisions, and driving operational efficiency across diverse applications.
- *Innovated AI Products:* Delivered proprietary AI solutions blending advanced technologies with user-focused design to solve complex challenges.

AI/ML Developer | Credwise | Canada | Volunteering | August 2024 - Present

- *Led a high-performing team of 6 AI/ML engineers*, delivering 3 major Generative AI initiatives that achieved 40% faster data processing and 25% reduced response times in AI-powered applications.
- Architected and implemented *advanced Retrieval-Augmented Generation* (RAG) systems integrated with Large Language Models on *Vertex AI*, enhancing real-time inferencing and model precision.
- Engineered scalable cloud infrastructure using GCP services, *optimizing Cloud Firestore databases for real-time synchronization*, automated scaling, and low-latency data retrieval under high-traffic conditions.
- Established *containerized AI model deployments* using Docker and Kubernetes on Google Cloud Platform, implementing efficient CI/CD pipelines for continuous model updates and system monitoring.
- Designed and *optimized cloud-native AI architectures* integrating multiple data streams, focusing on performance tuning, automated scaling, and robust application development.

Python Engineer | Virtusa | IN, Tamil Nadu, Chennai | October 2021 - July 2023

- Engineered high-performance Python frameworks that achieved 20% improvement in application performance through algorithmic optimizations and code refactoring, *including development of a cost-effective ETL framework that replaced Talend for 170% cost reduction*.
- Architected AWS cloud infrastructure solutions using Python and boto3, implementing automated resource provisioning systems and *time series forecasting models* for proactive cost management and optimization of cloud resources.
- Developed comprehensive data warehousing solutions on *Snowflake with Python-driven ETL processes*, resulting in 20% faster data processing and enhanced data-driven decision-making capabilities.
- Created *automated data pipeline* systems that increased processing efficiency by 30%, incorporating robust data cleaning, transformation, and validation processes while ensuring data integrity across multiple stages.
- Designed and implemented *real-time web frameworks* using Python and Flask, enabling dynamic system configuration and enhanced user interaction capabilities for improved customer engagement.

Junior Software Developer | Powertrac Engineers Pvt Ltd | IN, Tamil Nadu, Chennai | May 2021 - September 2021

- Successfully *deployed 5 enterprise software applications* through comprehensive end-to-end development cycles, achieving 20% improvement in operational efficiency through collaborative development practices.
- Administered and *optimized multiple MySQL databases*, implementing performance tuning strategies and maintaining high availability standards for business-critical operations.
- Developed robust software solutions using Java and Python, focusing on functionality enhancement and system optimization for improved application performance.
- Implemented continuous integration practices and automated testing frameworks, resulting in *accelerated development cycles* and significant reduction in defect rates.
- Led cross-functional collaboration initiatives for software improvement projects, contributing to enhanced team productivity and streamlined development processes

Key Strengths

- **Architecting End-to-End LLM Solutions:** Expertise in delivering comprehensive LLM solutions across diverse use cases.
- **Optimizing LLM Performance:** Proficient in advanced tuning and integration techniques to enhance model efficiency.
- **Leveraging Cutting-Edge AI:** Skilled in applying the latest AI technologies to solve complex business challenges.
- **Rapid Adaptation to Emerging Technologies:** Demonstrated ability to quickly adapt and excel in new AI frameworks and cloud services.
- **Sophisticated LLM Applications:** Proficient in using LangChain and LangGraph to develop advanced LLM applications.

Soft Skills & Attributes

- **Problem-Solving:** Strong analytical thinker with exceptional debugging skills
- **Collaboration:** Thrives in team environments, bringing creative solutions to complex challenges
- **Self-Learner:** Eager to embrace new technologies and methodologies with a growth mindset
- **Innovative & Proactive:** Passionate about using technology to create a positive global impact

Category	Skill Area	Specific Technologies & Expertise
Large Language Models (LLMs) & AI Technologies	**LLM Development & Deployment**	**Fine-Tuning Techniques**: - RAFT - PEFT - Traditional approaches- **RAG-Based** **Architecture**: - Utilizing vector databases for retrieval-augmented generation- **Cloud-Based** **Deployment**: - Expertise in deploying models via Vertex AI - AWS Sagemaker endpoints **Hyperparameter Optimization**: - Advanced techniques for both training and inference **Prompt Engineering**: - Crafting prompts for structured and coherent response generation
	LLM Frameworks & SDKs	**Open-Source**: - Hugging Face Transformers – PyTorch **Proprietary**: : OpenAI (GPT), Anthropic (Claude), Google (Gemini) **LLM Application Frameworks**: - LangChain and LangGraph **Agent-Based Systems**: - CrewAI
	Multimodal AI	**Image Generation**: - Stability AI - OpenAI DALL-E 3 **Speech-to-Text**: - Faster-Whisper - OpenAI Whisper – Google STT **Text-to-Speech**: - OpenAI TTS-HD, - Google Cloud TTS – Deepgram **Translation**: - Google Translation API **Voice AI Agent**: Openai Realtime, Twilio
Data Science & Machine Learning	**Machine Learning Algorithms**	Regression Algorithms- Classification Algorithms- Clustering Algorithms using Sci-kit Learn
	Time Series Forecasting	ARIMA- SARIMA- SARIMAX
	Natural Language Processing (NLP)	NLTK- Textblob- VADER- Gensim- Textacy
	Data Reporting & Analytics	Power BI
Programming & Data Technologies	**Programming Languages**	**Primary**: - Python
	Databases	**NoSQL**: - MongoDB - Google Firestore **Relational**: - SQLite3 - MySQL
	Cloud Data Warehousing	Snowflake
Cloud Platforms & Integration	**Cloud Expertise**	**Google Cloud Platform (GCP)**: - Vertex AI Agents - Vector Search - Cloud Run - Storage Buckets – Firestore **Amazon Web Services (AWS)**: - AWS Bedrock - Sagemaker - S3 buckets - IAM - Lambda – DynamoDB **Microsoft Azure**: Azure ML Studio – Model catalog -Azure Openai Services **Other AI Platforms**: - Gemini's AI Studio - OpenAI Console- Anthropic developer console- Github Models

EDUCATION

Postgraduate Degree, Artificial Intelligence and Machine Learning | Lambton College | CA, ON, Toronto | 2025

- Lambton College, Toronto | Expected August 2025
- *in The Dean's Honor List in Semester 1 and Semester 2*

Bachelor of Engineering (BE), Computer Science | St. Joseph's College of Engineering | 2020

- St. Joseph's College of Engineering, India | July 2020 (Due to the pandemic in 2020, the government rescheduled the actual 8th

  semester exam to November 2020, ensuring continuity in academic assessments.)

CERTIFICATIONS

Course	Organization	
Advanced Python	StudySection	https://www.studysection.com/users/socialMedia/NzMzMjI4/Z2FuYXBhdGh5c3VicmFtYW5pYW0xOTk5QGdtYWlsLmNvbQ==
Python	TestDome	www.testdome.com/certificates/1673961486f8444594a87039fe1314c0
Python	LinkedIn	Skill Assessment Badge
Machine Learning	LinkedIn	Skill Assessment Badge
Mysql	LinkedIn	Skill Assessment Badge
Data Ops Fundamentals	DATA KITCHEN	https://www.linkedin.com/posts/ganapathy-subramaniam-sundar-b08aa222b_dataops-certification-activity-6892886657306017793-_lmP?utm_source=share&utm_medium=member_desktop
Dataops platform developer certification	DATA KITCHEN	https://www.linkedin.com/posts/ganapathy-subramaniam-sundar-b08aa222b_dataops-platform-developer-certification-activity-6893635485772644352-ZgSu? utm_source=share&utm_medium=member_desktop
Problem Solving using Python	HackerRank	https://www.hackerrank.com/certificates/cb38b70513ac
Python	HackerRank	https://www.hackerrank.com/certificates/376aba178b80
Snowflake Data warehouse	Udemy	https://www.linkedin.com/posts/ganapathy-subramaniam-sundar-b08aa222b_snowflake-activity-6893935118860247040-mhNJ?utm_source=share&utm_medium=member_desktop