Shrinivasa G

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Professional Summary

Experienced in developing cutting-edge GenAI,Agentic AI, computer vision, machine learning, deep learning, and ROS technologies, with over 5.10 years of hands-on expertise. Proven track record in designing, optimizing, and deploying advanced algorithms to achieve optimal performance and efficiency in diverse applications.

Professional Experience

Senior Software Engineer (Data Analytics and Artificial Intelligence)
Wipro Ltd, Bengaluru

09/24- 11/2025

- Built a Generative AI-powered application to summarize and extract key insights from PDF documents.
- Created a synthetic data generation tool for the healthcare domain, supporting care management system development and testing.
- Conducted a POC using LLMs to generate synthetic financial data for simulating fraud scenarios in financial fraud detection systems.
- Worked on a retail assortment optimization project using machine learning to improve product placement and inventory efficiency.
- Developed a deep learning model for multi-label healthcare code classification (ICD-10, CPT, CM) from unstructured medical records.
- Contributed to POC initiative leveraging Agentic AI and MCP to develop an autonomous agent for parsing email content and automating support ticket generation

Machine Learning Engineer
Utthunga Technologies Pvt Ltd, Bengaluru *- 04/22 - 08/24*

- Designed and developed deep learning models tailored for edge device deployment, achieving optimal accuracy and efficiency.
- Collaborated with research teams to experiment with and adapt state-of-the-art architectures for specific applications.
- Implemented model optimization techniques, resulting in reduced model size and improved computational efficiency.

Lead Application Engineer
Technologics Global Pvt Ltd, Bengaluru - *11/19 - 03/22*

- Led innovative IoT and embedded systems projects, including developing an eye movement tracker integrated with wheelchair control using Arduino, Raspberry Pi, and ESP32.

- Applied advanced computer vision techniques to create robust solutions such as face detection systems and license plate recognition using OpenCV and EasyOCR.
- Utilized machine learning algorithms for stock market forecasting and price prediction, enhancing financial decision-making processes.
- Engineered cutting-edge speech recognition systems, transforming spoken language into text with high accuracy.
- Demonstrated a proven track record of innovation and problem-solving, delivering impactful solutions across diverse projects and domains.

Education

Bachelor of Engineering in Electrical and Electronics Engineering
Bengaluru University, Bengaluru — 2019

Key Projects

PDF & Error Summarization ML Platform Application

Overview:
Designed and deployed a machine learning application to automate the extraction, summarization, and validation of content from PDFs associated with test case data, integrated with a CI/CD and DevSecOps pipeline across multiple environments (Dev, UAT, Prod).

Key Responsibilities & Contributions:

- Data Integration:
    - Developed scripts to access test case IDs from a testing platform.
    - Automated the fetching of associated PDFs for each test case
- Content Extraction & Processing:
    - Parsed and extracted text and images from PDFs.
    - Leveraged Generative AI (GenAI) models to analyze images and extract meaningful content.

- AI-Driven Summarization:
    - Generated comprehensive summaries of PDF contents using LLMs.
    - Created contextual Q&A pairs based on extracted content.
    - Validated the output using another LLM for quality and consistency scoring.

- Platform Integration:

    - Programmatically updated the generated summaries back into the test platform.

- Deployment & DevOps:
    - Deployed the application on ML deployment platform and later on AWS.
    - Integrated application deployment into a DevSecOps pipeline via Git branch selection and manual triggering.
    - Monitored and debugged deployment using:

        - Splunk for centralized log management
        - kubectl for checking logs and performing port-forwarding from AWS to local env

- Environment Management:
    - Maintained separate environments for Development, UAT, and Production with version tracking and monitoring.

Tools & Technologies:
Python · GenAI · LLMs · AWS · Kubernetes · Splunk · ML App Platform · DevSecOps · Git · PDF/Text/Image Processing · kubectl · CI/CD Pipelines

Project: Multi-Agent Email MCP Server Automation
Technologies: Python | AI Agents | REST APIs | SAP | Email Automation | Orchestration

Description:

- Designed and implemented a multi-agent system (MCP Server) to automate email-based support ticket creation and management.

- Developed three specialized agents:

    - **Email Parser Agent** – Parsed and classified incoming emails to extract relevant details (e.g., issue type, order no etc info).

    - **Orchestrator Agent** – Coordinated workflow between agents, managed task execution, and ensured process reliability.

    - **SAP Ticket Creation Agent** – Integrated with SAP systems via APIs to automatically create and update support tickets.

- Enabled end-to-end automation from email receipt to ticket generation, reducing manual effort and response time.
- Implemented robust error handling, logging, and retry mechanisms in the orchestrator for reliable automation

Tools & Technologies:
Python · AI Agents · LLMs · MCP · Kubernetes · Splunk · ML App Platform · DevSecOps · Git · PDF/Text/Image Processing · CI/CD Pipelines

Retail Assortment Optimization (RAO)

Description:

Ongoing development of a data-driven solution for optimizing product assortments across retail and online channels by integrating sales data and applying machine learning and optimization techniques.

- Led the development and implementation of a Retail Assortment Optimization model to improve product mix across multiple store clusters and customer segments.
- Conducted in-depth data analysis using historical sales, inventory, and customer demographics to identify high-performing SKUs and eliminate underperforming items.
- Applied clustering and market basket analysis to segment stores and tailor localized assortments, increasing relevance and reducing overstock.
- Built predictive models to forecast SKU performance and simulate the impact of assortment changes on revenue, margin, and inventory turnover.
- Collaborated with merchandising and supply chain teams to align assortment strategies with inventory constraints and category goals.

Tools & Technologies: Python · HANA · ML Algorithms · AWS · Splunk · DevSecOps · Git

SensorIQ GenAI Bot: Revolutionizing Customer Engagement with Advanced Chatbot Technology

- Spearheaded the development of a GenAI chatbot project for a prominent client, focusing on enhancing customer interaction and service automation.
- Implemented advanced technologies including RAG (Retrieval-Augmented Generation) to improve content retrieval and generation capabilities.
- Integrated a chroma vector database to enhance data representation and retrieval efficiency.
- Utilized LangChain for streamlined language processing, enabling the chatbot to understand and respond effectively to user queries.
- Integrated OpenAI API for natural language understanding, enhancing the chatbot's conversational abilities and user experience.
- Delivered a sophisticated AI-driven solution that showcases innovation and advanced capabilities in customer service automation.

A-VDGS Obstacle Detection System using Vision and LiDAR Sensor

Built a deep learning model integrated with the ROS framework for real-time visual docking assistance.

- Achieved 94% precision, 92% recall, and 93% F1-score on 1,000 annotated docking scenarios.
- Delivered real-time inference (20ms/frame) on NVIDIA GTX 2080 GPU.
- Outperformed traditional CV methods by 15% in accuracy and 30% in speed.
- Maintained >75% accuracy in varied conditions (nighttime, poor weather).
- Trained on 10,000+ images with data augmentation using TensorFlow.
- Integrated with ROS Noetic UI for deployment in simulated dockyard environments

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Certifications

- Applied Data Science with Python - Level 2 Issued by IBM June 2020
- Data Analysis Using Python - Issued by IBM June 2020
- Python For Data Science - Issued by IBM 2020

Key Skills

Technical Proficiency:

- Expertise in computer vision techniques such as image processing, object detection, and classification using deep learning frameworks like TensorFlow and PyTorch.
- Skilled in developing and deploying machine learning models for tasks such as predictive analytics, Generative AI applications

Project Management: Experience in leading and coordinating multi-disciplinary projects, ensuring deadlines are met and objectives are achieved.

Adaptability: Ability to quickly learn new technologies and methodologies to adapt to evolving project requirements and industry standards.

Communication Skills: Effective verbal and written communication skills, facilitating clear articulation of technical concepts and project updates to diverse stakeholders.

Additional Information

- Availability to learn quickly in a dynamic environment
- Solid technical proficiency specializing in GenAI,machine learning, deep learning, and ROS.
- Passionate about driving innovative solutions in GenAI, Machine learning,

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