Kesevan Sekar Balaji

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Summary

Software Engineer with 2+ years of experience specializing in **cloud-native automation**, **distributed systems**, and **LLM orchestration**. Expert in building event-driven microservices on Azure and optimizing enterprise IAM lifecycles. Proven track record of reducing operational overhead by 30% through Python-based automation and CI/CD excellence.

Technical Skills

Languages: Python (FastAPI, Flask, Pandas, PyTorch), PowerShell, SQL, C++, Bash
Cloud & Azure: Logic Apps, Event Hubs, Entra ID, Azure Functions, Bicep, Databricks, Purview, Key Vault
DevOps: Git, GitHub Actions, Azure DevOps, Docker, Kubernetes, Terraform, Jenkins
Data & Visualization: Power BI, Matplotlib, Grafana, Plotly

Experience

Shell **August 2023 – Present**
Software Engineer, Tenant Services *Bangalore, India*

- **Engineered ShellOps** — an LLM-driven orchestration system leveraging Azure Logic Apps and event-driven microservices to automate tenant operations, reducing incident resolution time by **30%**.
- **Architected** distributed workflows using Azure Event Hubs to automate identity lifecycles, scaling to **10,000+ events/day** and eliminating **35%** of manual IAM intervention.
- **Developed** an internal **Identity API** using **FastAPI** and Python for SPN lifecycle automation, streamlining security governance and reducing administrative overhead by **30%**.
- **Orchestrated** a multi-agent AI consultation system using **Azure AI Foundry**, routing complex IAM queries to specialized sub-agents to reduce external dependency by **40%**.
- **Implemented** robust CI/CD pipelines with GitHub Actions and Bicep to automate infrastructure-as-code (IaC) deployments, achieving **98%** deployment reliability.

Siemens **August 2022 – June 2023**
Technical Research Intern *Bangalore, India*

- **Developed** a generative learning pipeline using Python and OpenSCENARIO to synthesize **20% more edge cases** for autonomous vehicle testing, reducing manual effort by **30%**.
- **Engineered** computer vision models for surface defect detection in railway rolling stock using **PyTorch**, achieving **75% accuracy** in production-like environments.
- **Built** a 3D simulation and visualization tool in Python for car crash impact analysis, improving sensor calibration insights for AV systems.

Aerospace Engineers Private Limited **July 2021 – August 2021**
Robotics Research Intern *Bangalore, India*

- **Optimized** object detection algorithms (YOLO, ResNet) for autonomous drones on **NVIDIA Jetson Xavier**, achieving **75% detection accuracy**.

Projects

Deep Research App (WMD) | *FastAPI, Cerebras AI, Exa, Python* **2024**

- Built a **multi-agent research platform** that performs parallel query decomposition and web intelligence synthesis.
- Integrated **Cerebras** for high-speed inference and **Exa** for semantic web search, deployed as a modular backend.

Education

Ramaiah Institute of Technology **August 2019 – August 2023**
B.E. in Computer Science, GPA: 8.89/10 *Bangalore, India*

Certifications & Publications

Azure: AI Engineer Associate (AI-102), Security (SC-900), Data Fundamentals (DP-900), Fundamentals (AZ-900)
Shell: e-Certified GenAI Developer; **Publication**: 'Role of RPA in Intelligent Auditing' (Springer)