

RAVITEJA KALAVENA

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SUMMARY

Machine Learning & Backend Engineer with 5+ years of experience in developing scalable, production-ready ML systems. Proven expertise in Python-driven model building and designing robust evaluation pipelines for complex, noise-prone datasets. Experienced in integrating multi-modal data and iterating on novel architectures to enhance user-focused applications. Adept at transforming advanced ML models into practical solutions with measurable impact.

TECHNICAL PROFICIENCIES

- **Programming Languages:** Python, Java, SQL, JavaScript, C++
- **Python Libraries & ML Frameworks:** PyTorch, TensorFlow, NumPy, Scikit-learn, OpenCV, Transformers
- **LLM / RAG / NLP Tools:** Hugging Face, LangChain, OpenAI API, Claude, RAG pipelines
- **Web & API Frameworks:** FastAPI, Flask, REST
- **Databases:** PostgreSQL, Redis, Snowflake, Elasticsearch, MongoDB
- **Cloud Platforms:** AWS, GCP, Azure ML
- **DevOps & Infra:** Docker, Kubernetes, Git, Terraform, Linux, Jenkins
- **Big Data & Analytics:** Spark, Hadoop, Airflow, Hive, PySpark
- **Machine Learning & Research:** Machine Learning Models, Multi-modal Architectures, Neuroimaging Knowledge, Experiment Design, Signal Processing, JAX, Data Preprocessing

PROFESSIONAL EXPERIENCE

Groccy App

Feb 2025 - Jul 2025

Founder

Atlanta, GA

Held direct oversight of day-to-day product development activities for an innovative grocery delivery app, owning end-to-end operations in launching a cutting-edge tool for the Indian community in the US. Drove user acquisition efforts, managed vendor onboarding, and conducted financial projections. Coordinated angel investor outreach. Oversaw fundraising pitch decks.

- Led the successful onboarding of over 10 Indian grocery stores across Georgia and Alabama.
- Directed community-focused marketing, optimizing the user base by more than 5K customers organically.
- Built and managed the entire tech stack using AWS, React Native, Node.js, and MongoDB, enhancing app performance and reliability.
- Implemented essential features like OTP login, Stripe payments, cart/order flow, and location-based vendor listings, improving user experience and transaction efficiency.

Teleperformance

Feb 2022 - Jun 2023

Machine Learning Engineer

Hyderabad, Telangana, India

Developed and iterated on ML models in Python, leveraging frameworks such as OpenAI and Claude to build data-driven solutions, while designing evaluation pipelines to assess model performance.

- Crafted RESTful APIs with Flask, FastAPI, and Django, enhancing data exchange efficiency and scalability.
- Automated ML workflows by deploying cloud infrastructure using AWS (EC2, Lambda, S3, RDS) and Terraform, which improved deployment speed and model reliability.
- Engineered multi-threaded Python services that enhanced application performance and responsiveness.
- Implemented RAG pipelines integrating intelligent response mechanisms, thereby advancing user interaction.
- Monitored logs using Slack Automation and CloudWatch Logs Insights, reducing response times by 35%.

nCircle Tech

Nov 2020 - Jan 2022

Data Scientist

Pune, Maharashtra, India

Balanced concurrent priorities by assessing and resolving user issues, implementing corrective actions to defects and discrepancies, creating software specifications, and developing technical documentation.

- Utilized TensorFlow and OpenCV for improved medical image segmentation, incorporating thorough data preprocessing and exploratory analysis to enhance accuracy.
- Streamlined deployment workflows with Docker, MLFlow, and S3 to support robust model evaluation and real-time inference.
- Applied model stacking and advanced post-processing techniques, resulting in a 22% classification improvement.
- Led the deployment of a 2D-to-3D transformation pipeline using Flask on AWS EC2, demonstrating technical leadership in achieving real-time scalable inference.

Arnekt

Aug 2018 - Oct 2020

Machine Learning Engineer

Pune, Maharashtra, India

Managed end-to-end development of scalable machine learning pipelines, utilizing Flask, PostgreSQL, and AWS EC2, while ensuring rigorous data preprocessing and integration of heterogeneous data sources.

- Developed financial forecasting systems using real-time trading data and LSTM models, achieving over 90% accuracy.
- Enhanced loan default predictions by 15% through feature engineering and deep neural networks (DNNs).
- Leveraged Pandas, Keras, and ETL workflows to build and fine-tune trading system engines, which improved profitable signal detection by 25%.

EDUCATION & CREDENTIALS

Auburn University at Montgomery

Master of Science, Computer Science

- GPA: 3.5

May 2023 - May 2025

Montgomery

Osmania University

Bachelor of Engineering, Computer Science

- GPA: 3.8

Aug 2015 - Jun 2018

India

Projects

Grocery Delivery App | React Native, Node.js, MongoDB, AWS, Stripe, Uber Direct API

Feb 2025 - Jul 2025

Atlanta

- Built a full-stack grocery app with user, vendor, and admin dashboards, cart, OTP login, and Stripe payments.
- Deployed backend on AWS EC2 with Uber Direct API and GPS-based delivery zones for live order tracking.
- Designed MongoDB schemas and REST APIs using Node.js + Express, supporting 10+ vendor stores.

Deep Learning for Medical Image Analysis | Python, TensorFlow, CNNs

Feb 2020 - Jun 2020

- Built a CNN-based pipeline to detect abnormalities in medical scans, achieving 94% classification accuracy.
- Applied transfer learning to improve performance on limited data, reducing training time by 30%.
- Deployed as a Flask web app for scalable, real-time analysis by medical professionals on the cloud.

LICENSES & CERTIFICATIONS

- AWS Solutions Architect
- Google Cloud Data Engineer
- Deep Learning Specialization

Blog & Publications

- Instance Segmentation on Indian Driving Dataset Using Mask R-CNN. Instance Segmentation with Mask R-CNN – Achieved 90%+ precision on Indian Driving Dataset
<https://medium.com/analytics-vidhya/indian-driving-dataset-instance-segmentation-with-mask-r-cnn-and-tensor-flow-b03617156d44>