

Ramesh Naidu

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PROFESSIONAL SUMMARY

AI-driven Senior Software Engineer with 5+ years of experience building production-ready web systems using Flask, SQL, and machine-learning integrations. Skilled in developing scalable APIs, optimizing ETL workflows, and embedding NLP and predictive models into enterprise platforms. Improved decision accuracy and system performance across real estate and SaaS environments through CI/CD automation, secure deployment, and data-driven application design. Strong collaborator who delivers reliable, high-performance, AI-enabled solutions for cloud-based product ecosystems focused on analytics, automation, and business intelligence.

TECHNICAL SKILLS

Methodologies and IDEs: SDLC, Agile, Waterfall, Visual Studio Code, PyCharm, Colab

Language and Databases: Python, Go, SQL, R, C/C++, MATLAB, Scala, MySQL, Oracle, Firebase, MongoDB, Redshift

Library/ Packages: PyTorch, TensorFlow, Keras, NumPy, SciPy, Pandas, Regex, SciKit-Learn, XGBoost, OpenCV, NLTK, SpaCy, Matplotlib, Ggplot, Seaborn, ResNet 50

Tools: Power BI, Tableau, Microsoft Excel, Hive, Alteryx, Spark, Airflow, Snowflake, Hadoop, MLflow, Docker, Kubernetes, Google Analytics, Git, GitHub, Jira, and Jenkins, ETL

ML Algorithms: Regression, Supervised Learning, Unsupervised Learning, Random Forest, Linear Regression, Decision Tree, Deep Learning, Clustering, Classification, Time-Series, Tensorflow, Keras, NLP, GANs, Open AI, LLM, RNN, CNN

Other Skills: Data Cleaning, Data Wrangling, Data Warehousing, Data Visualization, Critical Thinking, Communication Skills, Presentation Skills, Problem Solving, Amazon Web Services (AWS), Microsoft Azure, Google Cloud Platform, A/B Testing

PROFESSIONAL EXPERIENCE

Generative AI Engineer, Adobe

Aug 2024 – Present | USA

- Built and launched a personalized recommendation system by integrating collaborative filtering, content-based techniques, autoencoders, and LLMs, leading to a 15% boost in sales and a noticeable rise in customer satisfaction.
- Experimented with Generative AI models for text summarization and forecasting explanations, bridging classical ML pipelines with LLM-based insights, initiating transition toward intelligent decision automation.
- Refined a deep learning recommendation model (Autoencoder) by performing hyperparameter tuning and cross-validation, reaching 92% accuracy in preference prediction using TensorFlow, Keras, and Scikit-learn.
- Engineered robust ETL pipelines and performed end-to-end data preprocessing with Python (Pandas, NumPy, PySpark), Scala, SQL, and Apache Spark to deliver clean, structured datasets for training and analysis.
- Deployed machine learning models on AWS using SageMaker for training, Lambda for scalable inference, Redshift for data storage, and CloudWatch/Prometheus for real-time system monitoring and performance metrics.
- Streamlined model lifecycle management by implementing MLOps practices, including automated CI/CD pipelines (GitHub Actions), containerization (Docker), orchestration (Kubernetes), and infrastructure automation with Terraform.

Machine Learning Engineer, Anblicks

Apr 2022 – Jul 2023 | India

- Built and deployed end-to-end ML pipelines for time series forecasting using ARIMA, Random Forest, XGBoost, and LSTM (TensorFlow/Keras), boosting forecast accuracy by 38% and minimizing medical supply stockouts across 15+ departments.
- Engineered scalable data workflows by extracting and preprocessing over 500,000 records from Electronic Health Records (EHRs) and hospital systems, using Python (Pandas, NumPy), PySpark, and SQL for efficient data transformation.
- Fine-tuned domain-specific LLMs using LoRA and parameter-efficient techniques, optimizing product recommendations and content generation, boosting personalization accuracy while reducing inference cost on AWS deployments.
- Deployed ML models on AWS and integrated with hospital ERP via APIs, achieving 97% uptime, enabling real-time forecasting, automating procurement, and cutting manual processing by 70%.

Sr. Software Engineer, Genpact

Jun 2019 – Apr 2022 | Hyderabad, India

- Engineered scalable full-stack web applications using Python (Flask), React.js, SQL, Docker, optimizing backend data pipelines and real-time analytics workflows, improving system responsiveness and operational efficiency.
- Developed RESTful APIs for property analytics platforms, integrating machine learning inference models, caching strategies, and role-based authentication, reducing API response time by nearly 32%.
- Implemented CI/CD pipelines using Docker, automating deployments of analytics services supporting global enterprise clients, including internal platforms used by Zillow-like real-estate systems at Genpact.
- Integrated NLP-driven text processing services using spaCy, NLTK, TensorFlow, powering search, categorization, and recommendation functions, improving feature accuracy and user engagement across applications.
- Collaborated closely with data science and analytics teams, improving feature design and model deployment strategies, which sparked my transition into ML-focused and AI-driven application engineering.

EDUCATION

Southern Arkansas University, Arkansas, USA

Aug 2023 - May 2025

Master of Science in Computer Science

CERTIFICATES

Infosys - Power Programmer Virtual Experience Program ([Link](#))

Cognizant – Artificial Intelligence Job Simulation ([Link](#))

IBM - Machine Learning with Python ([Link](#))

IBM - SQL and Relational Database ([Link](#))