

RAHUL BABU

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SUMMARY

Software Engineer with 3 years of experience building AI-driven full stack application and analytics. Designed and deployed LLM-powered research assistants and NLP pipelines using Python . Delivered full-stack solutions with using React, JavaScript, Python, Java, and hybrid databases (PostgreSQL, MongoDB) while automating ETL pipelines. Deployed containerized microservices on AWS with CI/CD. ([AWS Certified Solutions Architect – Associate](#)).

EXPERIENCE

HOVIAN INC. SOFTWARE ENGINEER CUCAMANGO, CA, US	July 2025 - Dec 2025
<ul style="list-style-type: none">Implemented a hybrid backend communication layer using Node.js with REST (HTTP) APIs + WebSockets to stream real-time Outlook notifications and support AI-generated responsesBuilt and maintained the desktop UI (JavaScript, HTML5, CSS3), shipping 10+ reusable renderer views (chat, settings, toggles) with tabbed/multi-view navigation for notification + workflow management.Developed a Python-based AI media module to generate an “Animated GIF” feature (sprite-sheet slicing, pixelation using PIL, GIF assembly using imageio), producing animated outputs from text prompts.	
ASU DECISION THEATER NETWORK SOFTWARE DEVELOPER TEMPE, AZ, US	May 2024 - May 2025
<ul style="list-style-type: none">Implemented an ML pipeline in Python and R to preprocess and analyze 50K+ census and public health records, training and evaluating XGBoost + ensemble models to generate regional risk predictions.Performed geospatial opioid risk analysis using PostGIS, writing spatial SQL (proximity/region joins, hotspot-style aggregations) to map overdose patterns and generate region-level insights for the dashboard.Delivered a real-time risk dashboard (React + TypeScript) backed by FastAPI services, containerized with Docker and deployed on Google Cloud Run for low-latency filtering.Automated data collection using Python and Selenium, gathering 1,000+ healthcare survey responses and 795 climate policy documents, analysis and evaluation to measure LLM resilience on heat and healthcare prompts.Deployed a RAG-based chatbot using Llama 3, LangChain, and Chroma on Jetstream2 HPC to summarize 100+ interview transcripts for the Maricopa County and support ASU’s LLM resilience research.	
INNOHAT SYSTEMS SOFTWARE DEVELOPER CHENNAI, TN, INDIA	Jan 2022 - July 2023
<ul style="list-style-type: none">Designed hybrid storage using PostgreSQL for transactions and MongoDB for product metadata and user reviews; reduced schema-change overhead while keeping financial data ACID-compliant.Built Flask REST APIs for checkout, refunds, and shipment events; wrapped 200+ test cases in pytest, reaching 85% coverage and minimizing regression bugs.Orchestrated ETL pipelines in Python (pandas + SQLAlchemy + PyMongo) to merge order history with review sentiment data; optimized pipeline runtime by 40% on 20M+ rows + 5M+ docs.Built internal and customer facing UI modules using Angular + TypeScript, implementing component-based pages and API integration to support operational workflows.Containerized services with Docker and deployed on AWS (EC2, RDS, S3, DocumentDB) with CloudWatch monitoring to maintain stability during seasonal traffic spikes.	

SKILLS

Backend & API Development: Python (Pandas, NumPy, Async Programming), Django, Flask, FastAPI, Java, RESTful API Development, Microservices, Scalability, Database Management (SQL, PostgreSQL, MySQL).

Frontend & Full-Stack Development: Angular, React, TypeScript, HTML5, CSS3, JavaScript (ES6+), State Management, Component Architecture, Lazy Loading, Node.js & Express, GraphQL, API Integration, Responsive UI Design, Webpack.

Machine Learning & AI Engineering: LLM Development (GPT-4, LLaMA), LangChain, RAG Frameworks, Prompt Engineering & Optimization, TensorFlow, PyTorch, Scikit-learn, XGBoost, Hugging Face Transformers, spaCy (NLP).

Cloud, Data Engineering & DevOps: AWS, Data Pipelines (ETL, Ingestion, Validation, Warehousing, Transformation), Data Lake, Data Governance & Quality, Git/GitHub/GitLab.

EDUCATION

Arizona State University Master of Science in Computer Science - CGPA 3.83/4	Aug 2023 - May 2025 Tempe, AZ, USA
Madras Institute of Technology, Anna University Bachelor of Engineering in Computer Science - CGPA 8.69/10	July 2019 - June 2023 Chennai, TN, India