Dhrumil Ankola

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Summary

Graduating with a Master's in Computer Science (Mar 2025), I build scalable web apps with React.js, Python, and TensorFlow. I developed PyAsterix—an open-source Python package for AsterixDB that boosted data processing efficiency by 40%. I also integrated LLMs into production, cutting query response times by 25% and increasing engagement by 20%. Collaborated with cross-functional teams and stakeholders to deliver solutions for 50K+ daily users, reducing load times by 30%

Education

University of California, Riverside   Expected 03/2025
Master of Science in Computer Science (GPA: 3.7)
- Relevant Courseworks: Big Data Management, Spatial Computing, Advanced Operating Systems, Design and Analysis of Algorithms, Advanced Database Management, Data Structures, Software Design Principles, Machine Learning Model Integration

BVM Engineering College, Anand, India   07/2023
B.Tech in Information Technology

Skills

Languages: Python, JavaScript, C++, SQL
Databases: MySQL, MongoDB, NoSQL, AsterixDB, ChromaDB (Vector DB)
Frameworks & Libraries: React.js, React Native, Node.js, Django, Express, Laravel, RESTful APIs
AI/ML: Large Language Models (Gemma, BERT, Llama3), RAG, PyTorch, TensorFlow, Fine-Tuning, Graph Neural Networks (GNNs)
Cloud & DevOps: AWS (S3, Glue, Lambda, EC2), Docker, Kubernetes, CI/CD Pipelines, Jenkins, Git/GitHub
Testing: PyTest, PHPUnit, Selenium
Tools & Methadologies: Microservices, Distributed Systems, Agile/Scrum, Jira, OAuth 2.0

Experience

CE-CERT, UC Riverside   07/2024 - Present
Assistant Software Developer   *Riverside, CA*
- Engineered a scalable scheduling and inspection app with React and Laravel for CARB, ensuring compliance for 10,000+ vehicles annually and serving 5,000+ monthly users across 50+ sites
- Led cross-functional collaboration, optimizing AWS S3 workflows with AWS Glue to boost data accuracy by 25% and enable real-time regulatory integration
- Implemented automated tests (PHPUnit) and CI/CD pipelines, reducing deployment failures by 30% and ensuring reliability for 1TB+ monthly data processing

Big-Data Lab, UC Riverside   09/2024 - Present
Student Researcher   *Riverside, CA*
- Developed PyAsterix, a PEP 249-compliant Python driver for AsterixDB, enabling SQL-like querying for NoSQL and seamless Python tool integration (Pandas, Numpy, Matplotlib)
- Optimized data serialization/connection pooling, cutting query latency by 15% on 10M+ record datasets
- Designed AsterixDataFrame, a Pandas-like API for intuitive Big Data operations (filtering/aggregation) with scalable architecture

Devtown   05/2022 - 10/2022
Machine Learning Engineer   *Bengaluru, India*
- Designed and deployed a Graph Neural Networks (GNN)-based recommendation engine using PyTorch, automating data pipelines to improve on-device recommendation accuracy by 60% for a nationwide cinema chain's mobile app
- Automated data pipelines (Airflow, Python), cutting errors by 35% and ensuring 99.9% integrity across 50+ locations
- Created dashboards (Tableau) analyzing user behavior, increasing retention by 40% for 200K+ users via cross-team collaboration

Projects

Study Buddy - Berkeley CalHacks
React.js, Django, Hume AI, LangChain, Ollama, RAG, Google Gemma, ChromaDB
- Engineered an AI tutoring app using Hume AI's EVI (Empathetic Voice Inference) and fine-tuned Gemma 2 (LoRA, 4-Bit Quantization), achieving 90% accuracy in personalized responses
- Implemented RAG with ChromaDB to deliver context-aware study tools, enhancing learner engagement with interactive mind maps and voice-based learning

CreateFlow - CalHacks 11.0
LLaMA-3 8B, LangGraph, LinkedIn API, PostgreSQL, React
- Designed a multi-agent system with LangGraph linking AI agents for content, scheduling, & analytics, cutting creation time by 50%
- Enhanced LLaMA-3 8B with 4-bit quantization and LoRA adapters, fine-tuning on LinkedIn data to boost engagement predictions

Be Healthy
React Native, Firebase, OAuth 2.0, NFC Technology
- Developed a hospital management app with React Native, Firebase, OAuth 2.0, and NFC for contactless interactions, reducing document handling by 90%
- Streamlined workflows using real-time GraphQL, Node.js microservices, Docker, and CI/CD, cutting patient processing time by 30%