

# Umesh Gehlot

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## SUMMARY

Master of Science candidate in Computer Science with deep expertise in Artificial Intelligence, Machine & Deep Learning, Algorithms, Data Structures and scalable software engineering. Proven experience building end-to-end ML pipelines, optimizing DSA-centric solutions, and shipping production-grade AI products. Passionate about R&D in LLMs, Computer Vision, MLOps, AI and mentoring cross-functional teams to deliver high-impact, data-driven systems.

## CORE TECHNOLOGY STACK

**Languages:** Python, C++, Javascript, Rust, Go, TypeScript

**AI/ML/DL:** PyTorch, TensorFlow, JAX, Hugging Face, OpenCV, scikit-learn, XGBoost, LightGBM

**DevOps:** Docker, Kubernetes, KubeFlow, MLflow, Weights & Biases, GitHub Actions, CI/CD, Terraform, AWS SageMaker, GCP Vertex AI

**Data & Streaming:** PostgreSQL, MongoDB, Redis, Kafka

**APIs & Deployment:** FastAPI, Flask, Triton Inference Server, ONNX, TorchServe, Serverless (AWS Lambda), gRPC

## PROJECTS

### StockMarket Predictor – ML-based Price Forecasting

- Built ensemble model (Random Forest + XGBoost) on 5 years of S&P500 data achieving 85% trend prediction accuracy.
- Engineered features from historical prices and trading volumes using pandas and NumPy for time-series analysis.
- Created Flask web interface with interactive charts showing predictions vs actual stock performance.

### TaskFlow – Full-Stack Task Management Application

- Built responsive frontend with TypeScript, React, and Tailwind CSS featuring drag-and-drop task boards and real-time updates.
- Developed RESTful API with Node.js, Express, and Prisma ORM, implementing authentication with JWT and bcrypt.
- Designed PostgreSQL database schema with optimized queries, achieving < 100ms response time for all CRUD operations.

## EDUCATION

### Master of Science in Computer Science

Mount Carmel College, Bangalore

Aug 2024 – Mar 2026

*Advanced Data Science & AI*

- Thesis: “Agentic Self-Optimization(ASO): An Autonomous LLM Architecture for Recursive Self-Evaluation and Model Refinement”

### Bachelor of Science in Computer Science

Veer Narmad South Gujarat University, Surat

Aug 2021 – Mar 2024

- Key Coursework: Design & Analysis of Algorithms, Operating Systems, Machine Learning, Linear Algebra, Probability

## CERTIFICATIONS & ACHIEVEMENTS

**Deep Learning Specialization** – DeepLearning.AI —

**TensorFlow Developer Certificate** – Google —

**AWS Certified ML – Specialty**