

SANYUKTA TUTI

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EDUCATION

New York University Tandon School of Engineering

New York, United States

Master's in Computer Science, 3.889 GPA (Selected Coursework: Deep Learning, Machine Learning, Big Data, Databases) 2024 – 2026

Kalinga Institute Of Industrial Technology

Bhubaneswar, Odisha

Bachelor of Technology (Honours) in Computer Science and Engineering, 3.86 GPA

2018 – 2022

SKILLS

Programming & Frameworks: Python, C++, Java, SQL, PyTorch, TensorFlow, Pandas, NumPy, Scikit-learn, spaCy

Tools and Platforms: Spark, Hadoop, Kafka, Airflow, MLflow, Redis, MongoDB, Elasticsearch, BigQuery, Git, Docker, AWS

Core Competencies: NLP, Prompt Engineering, Statistical Modelling, Data Analytics, A/B Testing, Automation, Multimodal AI

PROFESSIONAL EXPERIENCE

Cisco Systems Inc.,

Bangalore, Karnataka

Machine Learning Engineer

August 2022 – August 2024

- Designed and deployed a FastAPI inference microservice behind ServiceNow webhooks on Kubernetes, achieving p95 latency ~240 ms and 99.95% availability while adding authentication and full request/response logging for reliable backend operations.
- Implemented a PII-safe text preprocessing and labeling pipeline (deduplication, normalization), backfilling 12 months of history and ingesting ~3.2k tickets/day; authored schema contracts and data-quality checks to keep models and APIs reproducible.
- Trained and productionized NLP and classification models, Sentence-Transformer embeddings with tuned HDBSCAN improved cluster purity by 9.8 pts; automated weekly retrains in Airflow MLflow.
- Delivered forecasting and risk-scoring pipelines (ETS for utilization, XGBoost for risk) integrated into product alerts, reducing security-related incidents by 25% and adding +12 hours hotspot lead time; maintained data lag <8 minutes with ≥99.6% job success.

Technical Undergraduate Intern

February 2022 – June 2022

- Spearheaded the development of innovative web-based internal Cisco software tool, Case Escalation Tracker, utilizing Python, JS, and MongoDB, amplifying its functionality and streamlining the management of over 5,000 customer support cases.
- Attained Cisco Certified DevNet Associate and Cisco Certified Network Associate I, and specialized in Software Defined Access.

Verzeo, in collaboration with IIT Kharagpur,

Bhubaneswar, Odisha

Machine Learning Intern

July 2020 – December 2020

- Engineered a loan default prediction model with 89.5% accuracy to forecast the target variables with scikit-learn and XGBoost.
- Crafted interactive dashboards for 10+ departments, streamlining reporting and saving 15 hours weekly in manual data compilation.

SELECTED PROJECTS

Personal AI Twin - End-to-End LLM & Retrieval-augmented generation (RAG) Platform [Link](#)

Built microservices for ingestion, vector search, parameter-efficient fine-tuning (QLoRA), fine-tuning an 8 B model, reducing perplexity by 38% and serving via AWS SageMaker with ≤ 700 ms p95 latency, surfaced in a Gradio UI that mirrors my writing style.

Airspace Congestion Monitoring System (Apache Kafka, PySpark, MongoDB, InfluxDB, Streamlit, Folium) [Link](#)

Engineered a real-time analytics platform using Kafka, PySpark, MongoDB, and geospatial visualization, applying information retrieval and anomaly detection on live streams (50K+ events/sec) with <200ms response times.

Candidate Recommendation Engine (Python, Streamlit, OpenAI, PyPDF2, scikit-learn, NumPy, sentence-transformers) [Link](#)

Developed an enterprise-grade AI recruitment platform with semantic search and cosine similarity scoring, ML-based candidate ranking, multi-tier AI integration, secure PII handling, and an interactive Streamlit-Plotly UI for detailed resume analysis.

CERTIFICATIONS and ACHIEVEMENTS

- Achieved Generative AI Collaboration White Belt and Data Science Green Belt - Cisco May 2024
- Living Cisco's Principle Award - Leadership Responsibilities and Automation - Cisco April 2024
- Going Above and Beyond Award - Delivering Value to the Customers with 10 CSAT - Cisco October 2023
- Accomplished Cisco Ideathon '21 among the selected 200 participants competing against 20,000 contestants January 2022

ACTIVITIES

Self Drive (Artificial Intelligence Research) - Vertically Integrated Project, New York University

January 2025 – Present

- Developed a ROS-based navigation pipeline, fine-tuned YOLOv8 (300+ images) and ViT-DINO retrieval across ~10k frames.
- Optimized SLAM + A* path planning with ResNet alignment, achieving 25% faster, collision-free navigation and winning 1st place in both Final and Early Bird competitions (10+ teams).