

Rhythm Bhavsar

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EDUCATION

Northeastern University
MPS in Applied Machine Intelligence
Gujarat Technological University
BSC in Software Development

Expected: September 2024 - May 2026
Cumulative GPA: 3.8/4.0
August 2020 – May 2023
GPA: 9.4/10.0

SKILLS

Machine Learning & Data Science: Scikit-learn, TensorFlow, Keras, PyTorch, Pandas, NumPy, CNNs, Transfer Learning (ResNet, VGG16), GridSearch Hyperparameter Tuning, Data Preprocessing & Augmentation, Time-Series Analysis
Large Language Models (LLMs) & NLP: QLoRA, LLaMA, GPT, BERT, Transformers, RAG Architecture, Semantic Search, NLTK
Cloud & Deployment: AWS (S3, Glue, Athena, SageMaker, Lambda), Azure, Flask, FastAPI, REST API, Containerized Deployments
Knowledge Representation & Graphs: Neo4j, OWL Ontologies, Knowledge Graph Design, Contextual Reasoning
Tools & Workflow: Git, Agile Methodologies, Technical Documentation, Stakeholder Communication
Business Intelligence & Visualization: Tableau, Power BI, AWS QuickSight, SQL Query Optimization
Programming Languages & Paradigms: Python, SQL, Functional Programming, Object-Oriented Programming (OOP)

PROFESSIONAL EXPERIENCE

Tumeryk

Full-Stack AI Intern (Internship)

San Francisco, United States

September 2025 – December 2025

- Designed and implemented end-to-end machine learning pipelines for the **AI Trust Score™**, enabling detection, blocking, and masking of sensitive data before exposure to LLMs. Achieved **82% accurate sensitive-data blocking** and improved the overall trust score by **2%**.
- Analyzed Trust Score reports and continuously monitored **RAG pipelines** to identify system inefficiencies, proposing optimized approaches that **reduced CPU utilization** and **lowered processing costs by ~3% per cycle**.
- Evaluated and validated Trust Score outputs to assess harmful model behaviors, including **insecure output handling, hallucinations, and sensitive content**, ensuring alignment with **global AI governance standards (ISO, NIST, EU AI Act)**. Authored **impact-driven technical blogs** based on these reports to communicate risks and mitigation strategies for **large-scale LLM systems**, strengthening the organization's thought leadership and industry presence.

Dwellci AI

New York, United States

July 2025 – September 2025

Machine Learning Engineer (Internship)

- Designed and developed an **AI-driven machine learning pipeline** to generate **buildable area estimates** across diverse geographical locations, grounded in **architectural design principles** and compliant with **International Building Code (IBC)**.
- Contributed to the development of an automated validation pipeline to assess whether **existing and AI-generated floor plans** adhere to **IBC requirements and fire safety regulations (IFC)**, improving design compliance and reliability.
- Designed and implemented a **knowledge graph** using **Neo4j** and **OWL ontologies** to model architectural principles and regulatory constraints, enabling **context-aware reasoning** over structured data and resulting in a **~3% reduction in processing time** for generating floor plans, bubble diagrams, and safety compliance reports.

Videk Webolutions

Bardoli, India

January 2023 – June 2024

Data Scientist

- Developed and deployed **scalable machine learning models** on **AWS SageMaker**, enabling real-time data synchronization between **CRM and ERP systems**. Improved operational efficiency by **30%** and significantly reduced data inconsistencies across enterprise platforms.
- Automated **CRM-ERP data integration** using **deep learning and NLP-based models**, reducing manual intervention by **70%** while improving data accuracy and overall workflow efficiency. Processed **large-scale real-time data** to ensure seamless end-to-end automation across enterprise applications.
- Designed and implemented an **AI-powered conversational system** leveraging **multiple RAG (Retrieval-Augmented Generation) pipelines**, enabling contextual and accurate responses across diverse enterprise knowledge sources. Delivered a **production-ready chatbot** that improved information retrieval, reduced dependency on manual support, and enhanced the client's AI-driven decision-making capabilities.

PROJECTS

CareEscapes AI (Experiential Learning Project)

April 2025 – June 2025

- Developed a **production-ready RAG-based chatbot MVP** to automate clinic appointment queries and booking workflows, reducing administrative overhead and improving patient interaction efficiency.
- Built a **domain-aware retrieval pipeline** using semantic search and vector embeddings, and **fine-tuned LLaMA models (QLoRA)** to deliver **immediate, evidence-based first-aid guidance** aligned with **globally recognized medical standards** (e.g., WHO first-aid guidelines, American Red Cross, and NHS clinical recommendations), ensuring accurate and safe responses.
- Deployed the solution on **Azure Cloud** with scalable, containerized services, achieving **~40% reduction in manual administrative effort** and faster response times for patient-facing queries.

Breast Cancer Detection Using Histopathology Images ([GitHub](#))

December, 2023

- Developed a **CNN-based deep learning model** to classify **IDC-positive vs. IDC-negative** cases from histopathology images, supporting **early breast cancer detection** and diagnostic accuracy.
- Improved model performance through **image preprocessing and augmentation** (contrast enhancement, normalization, data augmentation) and **model optimization** using **transfer learning** (ResNet, VGG16) and **GridSearch-based hyperparameter tuning**.
- Enabled **real-time inference** by deploying the model for integration with **clinical and healthcare applications**, assisting pathologists in faster and more reliable diagnosis.