

# Swarnim Tripathi

+91 7607260185 | [swarnim.tr@gmail.com](mailto:swarnim.tr@gmail.com) | [LinkedIn](#) | [GitHub](#) | [Portfolio](#)  
Lucknow, Uttar Pradesh, India

## EDUCATION

### Vellore Institute of Technology

Bachelor of Technology in Computer Science and Engineering

Chennai, India

July 2024 – May 2028

## TECHNICAL SKILLS

**Programming Languages:** Python, C++, JavaScript, SQL, Kotlin, Rust, HTML, CSS

**Machine Learning and AI:** PyTorch, TensorFlow, scikit-learn, Transformers, Fine-tuning, LoRA, Neural Networks, NLP

**Frameworks and Libraries:** FastAPI, Flask, Django, React, Pandas, NumPy, Matplotlib, XGBoost

**Databases and Storage:** PostgreSQL, MongoDB, SQL, NoSQL

**DevOps and Cloud:** Docker, Docker Compose, Git, Linux, CI/CD, Version Control, Airflow

**Data Science:** Feature Engineering, Model Deployment, Data Preprocessing, Statistical Analysis, Reinforcement Learning

## PROJECTS

### Aura — AI-Powered Diabetes Management | *Python, Flask, Keras, LSTM, PostgreSQL, NLP* | [GitHub](#) 2025

- Engineered a hybrid glucose forecasting system combining a personalized, fine-tuned LSTM model with an event-based adjustment layer, improving prediction accuracy by adapting to individual user data.
- Trained a Deep Q-Network (DQN) agent within a custom physiological simulator to recommend optimal insulin dosing strategies, achieving a 15% improvement in simulated Time-in-Range.
- Developed a sophisticated NLP engine to accurately extract dietary and activity data from unstructured user logs, integrating it into a full-stack Flask and PostgreSQL application with real-time dashboards and automated PDF reporting.

### Promptimus - Neural Shell Assistant | *Python, PyTorch, TinyLlama, LoRA, Docker* | [GitHub](#) July 2025

- Fine-tuned TinyLlama model achieving 89% command accuracy, improving base model performance by 24% using LoRA on 150+ Stack Exchange datasets
- Implemented safety validation system with 95% compliance rate, preventing dangerous command execution through automated dry-run analysis
- Built production-ready containerized application reducing manual data curation by 60% through automated API pipeline integration

### LearnBuddy - Adaptive Learning Platform | *Python, FastAPI, PostgreSQL, Docker, ML* | [GitHub](#) May 2025

- Developed reinforcement learning engine improving learner retention by 15% through dynamic difficulty adjustment algorithms
- Integrated Sentence-Transformers achieving 90% grading accuracy, outperforming traditional keyword-based methods by 25%
- Deployed scalable full-stack application using Docker Compose enabling one-command deployment across multiple environments

### Anxiety Level Predictor | *Python, scikit-learn, SGDRegressor, Data Analysis* | [GitHub](#) April 2025

- Processed lifestyle datasets using advanced encoding techniques and trained SGDRegressor model predicting anxiety levels on 1-10 scale
- Implemented robust preprocessing pipeline with missing value imputation achieving competitive MAE through optimization

## CERTIFICATIONS

### Machine Learning Specialization

DeepLearning.AI and Stanford University

June 2025

Coursera

### Data Analysis with Python

freeCodeCamp

May 2025

Online Certificate