VIGNESH S

Aspiring Data Scientist | Python • SQL • Machine Learning • Deep Learning
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PROFILE

Aspiring Data Scientist skilled in Python, SQL, Machine Learning, and Deep Learning, with hands-on experience building practical AI systems across computer vision, medical imaging, NLP, and financial time-series prediction. Passionate about applying AI to solve real-world problems.

EDUCATION

Vellore Institute of Technology, Chennai 2024–2026
M.Sc. Data Science; CGPA: 7.22

Thiruvalluvar University, Vellore 2020–2023
B.C.A.; CGPA: 7.93

TECHNICAL SKILLS

- **Programming:** Python, SQL
- **Machine Learning:** Scikit-learn, Feature Engineering, Model Evaluation
- **Deep Learning:** PyTorch, TensorFlow, Neural Networks, Transformers
- **Computer Vision & NLP:** YOLOv8, CLIP, FAISS, Grad-CAM, SentenceTransformers
- **Data Analysis:** Pandas, NumPy, TA-Lib
- **Tools & Platforms:** Power BI, Git, RStudio

INTERNSHIP EXPERIENCE

AI INTERN | Captiv Techno Solutions Pvt. Ltd., Chennai **Dec 2025 – Apr 2026**

- Developed a Transformer-based deep learning model for financial market direction prediction (LONG, SHORT, FLAT) using time-series data.
- Designed a two-stage hybrid architecture combining Transformer and LightGBM meta-labeling to improve signal accuracy and reduce false trades.
- Performed feature engineering on 104 market features covering momentum, volatility, trend, and statistical indicators.
- Processed large-scale EUR/USD and XAU/USD datasets using Python, Pandas, and TA-Lib.
- Implemented model training with PyTorch and evaluated performance using win rate, Sharpe ratio, and drawdown.
- Improved trading signal precision from 30.9% to 67.1% using meta-labeling filtering techniques.
- Gained hands-on experience in real-world AI workflows, model optimization, debugging, and deployment strategies.

PROJECTS

Optimizing Retail with Smart Cart System

- Developed a real-time retail product recognition system to automate checkout and reduce billing time using YOLOv8, CLIP, and FAISS.
- Addressed occlusion, lookalike items, and lighting variations through a hybrid detection + retrieval workflow.
- Designed fallback logic and confidence scoring for robust performance.
- Tools: YOLOv8, CLIP, FAISS, Python, Edge Deployment

X-ray Bone Fracture Classification & Healing Time Prediction

- Built a multi-task deep learning model for fracture classification and healing time prediction.
- Implemented preprocessing, U-Net segmentation, and feature extraction pipelines.
- Developed a dual-headed neural network for classification and regression.
- Used Grad-CAM for explainability and evaluated using MAE, RMSE, and accuracy.
- Tools: Python, TensorFlow/PyTorch, U-Net, EfficientNet, Grad-CAM

Automated Piracy Detection and Moderation in Telegram

- Built a hybrid NLP system combining MPNet embeddings with heuristic rule checks.
- Implemented ANY-match deletion, audit logs, and Telegram bot automation.
- Evaluated using precision, recall, F1-score, and semantic similarity metrics.
- Tools: Python, SentenceTransformers, python-telegram-bot, sklearn

CERTIFICATIONS

- LinkedIn Learning — Power BI Essential Training **May 2026**
- Meta Certification — Python Programming
- SkillUp Certification — SQL

LANGUAGES

Tamil — Native | English — Fluent