

# JAYANT DETHE

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Portfolio

## EXPERIENCE

### Suvidha Foundation

04 2025 – 05 2025

ML Research Intern (Remote)

Mumbai, India

- Researched AI-driven pedagogy by reviewing 70+ papers; proposed a RAG-based Transformer model for personalized LLM-powered learning.
- Designed a research-backed LLM-based Nutritional chatbot framework focused on food detection and personalized meal recommendations.

## PROJECTS

### FinVerse | Python, Flask, React.js

Feb 2024

- Developed a full-stack personal finance application to educate users on budgeting, saving, and investing.
- Integrated OpenAI-powered chatbot for real-time financial advice and assistance.
- Designed an interactive quiz module with dynamic scoring to assess and improve financial literacy.
- Simulated stock trading with virtual currency to teach users real-world investment strategies.
- Implemented secure REST APIs in Flask, used JWT for user authentication, and connected to a NoSQL database for scalability.

### Student Performance Prediction | Python, Flask, Scikit-Learn, HTML/CSS

Dec 2024

- Engineered a web-based ML system to predict student CGPA and academic grade using features like study habits, sleep patterns, and parental support.
- Implemented Gradient Boosting models for high-accuracy regression and classification tasks.
- Developed an interactive Flask API and responsive HTML/CSS frontend for real-time predictions.
- Enabled educators to proactively identify and support at-risk students through data-driven insights.

### Marathi LLM | Transformers, Hugging Face, PyTorch

Apr 2024

- Designed and trained a Marathi Large Language Model from scratch to generate context-aware and fluent native text.
- Curated and translated a 1M+ English corpus into Marathi using multilingual translation pipelines (MarianMT).
- Implemented custom tokenization using Byte-Level BPE to handle complex Devanagari script effectively.
- Used Hugging Face Trainer API and PyTorch for efficient masked language model (MLM) training on GPU.
- Achieved high-quality generative outputs for use cases like storytelling, chatbot responses, and content synthesis.

## EDUCATION

### Vidyalankar Institute of Technology

2022 – 2026

B.Tech in Information Technology with Specialization in AIML(Honors) – **CGPA: 8.9**

Mumbai, India

## TECHNICAL SKILLS

**Languages:** Java, Python, JavaScript

**Web Development:** HTML, CSS, Python (Flask), React.js, Tailwind CSS

**Deep Learning:** TensorFlow, PyTorch, Keras, Scikit-learn, Hugging Face Transformers, LSTM

**Natural Language Processing (NLP):** Tokenization, Lemmatization, TF-IDF, Cosine Similarity

**PDF Processing:** PyMuPDF, PyPDF2

**Databases:** SQL (SQLite), NoSQL

**Tools & DevOps:** Git, Visual Studio Code, Docker, Jenkins, Kubernetes, AWS

## CERTIFICATIONS

- Generative AI with LangChain & HuggingFace – Udemy
- Unity Essentials (Unity)
- Junior Programmer Pathway (Unity)
- Business Management Course – IIM Mumbai
- TCS iON Career Edge - Young Professional

## ACHIEVEMENTS

- Selected among the top 8 teams (out of 100+) in the internal college hackathon for Smart India Hackathon (SIH) qualification.
- Completed an internship at NGO "Shivprerna Dnyanmrut Probodhini Sanstha" under the "One Year One Village Campaign" initiative.