Subham Swain, B.Tech

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🌐 https://portfolio-793k.onrender.com/

Internship Experience

2025 – Present   🔖 **Research Intern, IIT Patna**

- Conducted research on fine-tuning LLaMA 3.2 (1B) for English-to-Odia translation and emotion-aware text classification.

- Fine-tuned Whisper for speech-to-text (STT) in Odia, improving transcription accuracy on regional datasets.

- Built ML pipelines integrating Wav2Vec2 (speech classification) and LLaMA-based models for voice assistant applications.

- Developed and maintained reproducible codebases using Python, PyTorch, and Hugging Face Transformers.

- Documented research experiments and prepared reproducible repositories for future development and deployment.

Education

2022 – 2026   🔖 **B.Tech in Computer Science and Engineering, Parala Maharaja Engineering College**, Berhampur, Odisha

2019 – 2021   🔖 **Higher Secondary (12th), St. Xavier's High School**, Berhampur, Odisha
Subjects: Physics, Chemistry, Mathematics, Biology

2018 – 2019   🔖 **Secondary School (10th), Odisha Adarsha Vidyalaya**, Channameri, Odisha
Completed with distinction

Projects

Portfolio Website
Personal portfolio website showcasing projects and skills, built with React and FastAPI backend, deployed on Render.
https://portfolio-793k.onrender.com/
https://github.com/SubhamSwain008/PORTFOLIO.git

Fine-tuning Whisper (STT for Odia)
Fine-tuned Whisper model for speech-to-text in Odia, improving transcription accuracy. Technologies: Python, PyTorch, Hugging Face Transformers.
https://github.com/SubhamSwain008/FinetuningASR.git

Fine-tuning LLaMA 3.2 1B (English to Odia translation)
Fine-tuned LLaMA 3.2 (1B) for English-to-Odia translation on low-resource datasets. Python, PyTorch, Hugging Face Transformers.
https://github.com/SubhamSwain008/LLAMA$_{FINTUING_{ENG_{T}O_{O}DIA_{T}RANSLATE}}$.git

LLaMA 3.2 1B Based Voice Assistant

Built a voice assistant integrating Whisper (STT) and TTS from Facebook, using Node.js and FastAPI backends for different services. Python, PyTorch, Hugging Face Transformers.

https://github.com/SubhamSwain008/LLAMA$_B ASED_V OICE_A SSISTANT.git$

Career Prediction App (Streamlit)

Streamlit web app for predicting career paths from user input. Technologies: Python, Streamlit, Scikit-learn.

https://github.com/SubhamSwain008/Predictionapp.git

Flappy Bird Game (React)

Browser-based Flappy Bird game built with React to explore dynamic component-driven UI and state management.

https://github.com/SubhamSwain008/Flappygame.git

Basic React Projects

Collection of React projects exploring various frontend concepts and dynamic UI elements.

https://github.com/SubhamSwain008/A-restart.git

Todo List App

React-based Todo List app with FastAPI backend and MongoDB for data storage, implementing full CRUD operations.

https://github.com/SubhamSwain008/Todo.git

Language Classification based on Audio (using Wav2Vec2 by Facebook)

Wav2Vec2-based model for classifying spoken languages from audio clips. Technologies: Python, PyTorch, Hugging Face Transformers.

https://github.com/SubhamSwain008/Audio$_c lassification.git$

Emotion-Aware Training (Text Classification)

Fine-tuned LLaMA 3.2 (1B) for emotion-aware text classification instead of off-the-shelf sentiment tools. Python, PyTorch.

https://github.com/SubhamSwain008/LLAMA$_F INTUING_E MOTION_D ETECTION.git$

Skills

Coding	🔖	C++, Python, JavaScript, TypeScript
Databases	🔖	NoSQL, MongoDB, PostgreSQL
Web Dev	🔖	HTML, CSS, JavaScript, React.js, FastAPI (Python), Node.js
NLP and AI	🔖	LLaMA, GPT-2, Gemma, Whisper, Seamless, Wav2Vec2, Indic TTS

Marks and CGPA

B.Tech	🔖	**7.9 CGPA**
12th Grade	🔖	**70%**
10th Grade	🔖	**84.4%**