Usham Adhitya Luwang

Bachelor of Technology
in Metallurgical and Materials Engineering
with Minor in Electrical Engineering
at Indian Institute of Technology, Ropar

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EDUCATION

Degree	Institute/Board	CGPA/Percentage	Year
Bachelor of Technology	Indian Institute of Technology, Ropar	8.21 (Till 5th Sem)	2022-2026
Higher Secondary	Council of Higher Secondary Education, Manipur	95.8%	2021
Secondary	Board of Secondary Education, Manipur	93.5%	2019

PROJECTS

- **AIvaluation** *github.com/ualUsham/AIvaluation*

  – This is a Web App that allows users to prepare for interviews based on their resume. Users have to register and upload their resume. Gemini AI is used to analyse the resume and ask 10 relevant questions. Based on the responses, AI will grade the candidate'skill on a scale of 10. Firebase Auth, Firestore, Reactjs, Expressjs,etc are implemented.
- **Telegram bot with Gemini AI for response & image analysis** *github.com/ualUsham/ualBot*

  – This Node.js application integrates a Telegram bot with Google Gemini AI and MongoDB Atlas Cloud server to provide dynamic user interactions. It performs 4 main tasks i.e Register users to Mongodb cloud database, Process user-messages with AI-generated responses, Analyzes user-uploaded Images with summary & Google searches with summarized results.
- **Habit Tracker React App** *github.com/ualUsham/Heinabi-habit-tracker*

  – Heinabi is a React-based habit tracking app where users can create, manage, and track habits effortlessly. It features an interactive FullCalendar for visual progress tracking and a responsive Bootstrap design for a modern user experience. Deployed on Netlify, it supports continuous deployment with Git for instant updates.
- **Amazon AI Assisted FAQ** *github.com/ualUsham/Amazon_AI_Assisted_FAQ*

  – This is a chatbot which helps customers to get AI assistance while shopping on the Amazon website. Retrieval Augmented Generation (RAG) is implemented using Google's LLM Gemini. Frameworks like LangChain, Hugging Face, Streamlit, etc., were used during this project.
- **Skin Disease Treatment Recommendation** *github.com/ualUsham/Skin_Disease_Treatment_Recommendation*

  – Transfer Learning using the MobileNetV2 model is used to build a robust system capable of accurately predicting skin diseases based on uploaded images. With a simple photo upload, users can get potential diagnoses, understand their symptoms, and receive initial treatment recommendations. Torch and torchvision were the main libraries used, and Gradio was implemented for the interface.

EXPERIENCES

- **Summer Undergraduate Research Intern** *Apr 2024 - Present*
  under Prof. Dr. Pratik K. Ray, IIT Ropar **github.com/ualUsham/Exchange_coupled_nanomagnets**
  – This research focuses on the magnetic properties of Exchange-Coupled Nanomagnets using Machine Learning algorithms such as Regression, SVM, and Neural Networks. It explores their potential applications in the electronics industry.

TECHNICAL SKILLS

- **Programming Languages**: Python, Javascript, C/C++
- **Technical Skills**: Web Dev, AI, LLM, RAG, MCP server, ML, tensorflow, keras, openCV, Scikit-Learn, HTML, CSS
- **Frameworks**: React, Langchain, VS Code, Jupyter notebook, Huggingface, github, git, streamlit, Flask, Django, Firebase, Expressjs, MongoDB

KEY COURSES TAKEN

- **Key Subjects**/**Electives**: Machine Learning in Material Science, Linear Algebra, Probability & Statistics, Signals & Systems, Control Engineering, Computing & Data Structures, Materials Modelling

POSITIONS OF RESPONSIBILITY

- **Head of Publicity**, Zeitgeist'24, IIT Ropar *June. 2024 - Oct. 2024*
- **Head of Design**, Board of Wellness, IIT Ropar *June. 2024 - Apr. 2025*
- **Co-Head of ISC**, Advtiiya'24, IIT Ropar *Jan. 2024 - Apr. 2024*
- **Ex-Coordinator**, Coding Club & Astronomy Club, IIT Ropar *July. 2023 - May. 2024*

MISCELLANEOUS

- **2nd Position**, State level National Talent Search Examination *2018*
- **2nd Position**, State Talent Search Examination *2017*
- **1st Position**, National Mathematics Day Celebration, Mastec *2016*