

PUNEET WALIA

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EDUCATION

Guru Nanak Dev Engineering College, Ludhiana

Bachelor of Technology in Information Technology

Minors: Big Data Analytics; Entrepreneurial Studies

Expected Graduation - June 2025

EXPERIENCE

Indian Institute of Technology, Indore

April 2024 – Present

Research Intern (under Dr. Chandresh Kumar Maurya, AI lab)

- Generated corpus for Speech-to-text Translation specified for Indic Languages.
- Developed state-of-the-art models for both end-to-end and cascade STT conversion.
- Expanded the system's capabilities to support multiple Indic languages within a unified framework.

Knowledge Media Institute, TOU

Aug 2023 - Feb 2024

Research Intern (under Dr. Angelo Salatino)

- Built a web crawler (Python) to extract conference data from IEEE, enriching the AIDA knowledge graph.
- Tackled IP restrictions by surmounting MAC address legally.
- Modularized the processing and parsed over 300,000 elements of data.

Trinity College Dublin, UOD

Aug 2023 - Dec 2023

Research Intern (under Dr. Ashish Kumar Jha, TBD dept.)

- Implemented an NLTK-based model to detect HR's perspective on Artificial Intelligence.
- Designed a Selenium model with Chrome Driver to preprocess and extract LinkedIn posts and arrange them in a spectrogram for sentiment analysis, achieving 35% acceptance among subjects.

Guru Nanak Dev Engineering College, PTU

Mar 2023 - June 2023

Research Intern (under Dr. Sandeep Kumar Singla, HPC lab)

- Contributed to a government-aided project called 'Medigen', a pharmaceutical app to detect insights about medical drugs.
- Developed a template for prompt generation using the Chain-of-Thought prompting technique for an LLM, prior to tokenization and stemming.

Creations Media

June 2022 - Sept 2022

Machine Learning Engineer Intern (Project-based)

- Developed a website for a Machine Learning forecasting model using the MERN Stack.
- Created APIs for the forecasting model using FastAPI and integrated them into the UI.

TECHNICAL SKILLS

Languages Java, Python, JavaScript, SQL, C++
Frameworks TensorFlow, PyTorch, Hadoop, NLTK, Scapy, FastAPI, Scikit

Tools Git, GitHub, Anaconda, Postman, Tableau
Platforms Linux, Web, Windows, Arduino

PROJECTS

- **CancerClassifier** *Pytorch, Image Classification, Streamlit* A web application for classifying skin cancer types using a pre-trained ResNet-50 model. The project includes data preprocessing, model training, and a Streamlit web application for predicting types of skin cancer from uploaded images.
- **GNDECScan** *React.js, Express.js, MongoDB, FastAPI, Natural Language Processing* A web app designed for my college to scan and upload students' answer sheets. This app uses OCR technology to detect text from handwriting (especially Indic languages) based on a cascade model and uploads it to an admin page where it is maintained in a database.
- **Netflix's Story** *Tableau, PostgreSQL, RDBMS, Data Analysis* Developed a comprehensive data narrative by preprocessing Netflix's shows and movies dataset. Analyzed genre distribution and ratings using visualizations, and presented the findings in an interactive format for user engagement.

PUBLICATIONS

- Rupinder Kaur, Sandeep Kumar, **Puneet Walia**. Predictive Analysis of Ludhiana's AQI (2023, November) – ICAET 11th edition.
- Sandeep Kumar, **Puneet Walia**, Rajat Garg. Parkinson Detection using GAIT analysis and signal processing (2022, September) – ICAET 10th edition.

VOLUNTEER

Center for Multi-Faceted Learning (CML)

Feb 2021 – Present

- Headed peer-to-peer machine learning workshops for 320+ students.
- Created dashboards to organize faculty and student financial data, simplifying interpretation, which helped reduce annual expenses by 10%.

CRY-Child Rights and You

June 2020 – Present

- Managed donor data and oversaw leads for children experiencing abuse.
- Instructed a class of 45 underprivileged children in fundamental Computer Science concepts.
- Initiated various offline and online crowdfunding programs which raised over 20,000 USD.

ACHIEVEMENTS

- Selected in Illuminate AI as a mentee out of 10,000 applications - June 2023.
- Selected as a delegate in AIS Youth Conference 2023 in Bali, Indonesia - September 2023.
- Reached the pre-final round of Samsung's Solve for Tomorrow - June 2022.
- Won the Inter-college Basketball championship 2023 as vice-captain.