Agrima Jain

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Education

UPES **Sep. 2022 – 2026**
B.Tech Computer Science and Engineering *Dehradun, Uttrakhand*

Experience

Research Assistant **May 2024 - Ongoing**
University of Petroleum and Energy Studies (UPES)

- Collaborated with Dr. Muthukumar K A on developing Simultaneous Localization and Mapping (SLAM) algorithms using ROS noetic framework and data extracted from Lidar 515 sensor.
- Currently refining results and optimizing SLAM algorithms to enhance mapping accuracy and real-time performance.
- Planning future integration of SLAM with neural networks for object detection to assist individuals with hearing impairments.

1EQ Foundation **June 2024 – Ongoing**
Software Engineer Intern

- Currently developing a healthcare product focused on the provider credentialing process, which involves document verification using OCR technology.
- Learning the Spring Framework for Java to enhance skills in backend development and application integration.

CodeClause **June 2024**
Data Analyst Intern

- Developed a model to predict the likelihood of employee attrition in a company using HR data.
- Built a classification model utilizing HR data to predict whether an employee is likely to leave the company.
- Designed a Streamlit web app for users to input health metrics and integrated machine learning models to predict the risk of heart disease.

Projects

Identity Guard | *Python, OpenCV, Face Recognition, CVZone, NumPy, datetime* **Code**

- Developed a facial recognition system using Python to detect faces, generate a box around them, and display the name of the identified individual.
- Implemented functionality to save detected images along with the time of detection in a CSV file.

Graph Summarizer | *Python, OpenCV, Pytesseract, ReportLab* **Code**

- Developed a command line based application to summarize bar and line graphs, generating a PDF report with extracted details and summary.
- Implemented OpenCV for image processing, including Canny edge detection and Hough Transform to identify graph elements.

Music Genre Detection | *Machine Learning, Neural Networks* **Code**

- Implemented music genre classification using machine learning and neural networks on GTZAN dataset.
- Utilized spectrograms in neural networks to analyze audio waveforms for genre classification.
- Evaluated various machine learning models aand advanced techniques like CatBoost and XGBoost for genre prediction.

Technical Skills

Languages: Python, Java, HTML/CSS
Technologies/Frameworks: ReactJs, Tailwind, MongoDB, Node
Design Tools: Adobe Photoshop, Adobe Premiere Pro
Operating Systems: Linux, Windows
Database: SQL

Achievements

- Hackathon Finalist: Made it to the top 15 teams out of 100 teams in Hackathon 7.0 held by UPES-CSI.
- Coding Challenge: Won 10-day coding challenge held by Open Community during Open Learning Program.
- Poster Presentation: Won 3rd prize in Poster Presentation competition held for first-year students at UPES during IBM Ice Day.