Saumya Roy

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Education

TU Eindhoven   Eindhoven, Netherlands
 MSc in Data Science and Artificial Intelligence (GPA: 7.0/10.0)   2022 - 2025

- **Relevant Coursework:** Deep Learning, Machine Learning Engineering, Visual Analytics, Big Data Management, Philosophy and Ethics in AI, Decision making with AI, Knowledge Engineering, Survival Analysis

University of Engineering and Management   Kolkata, India
 Bachelor of Technology in Computer Science and Engineering (GPA: 8.83/10.0)   2017 - 2021

- **Relevant Coursework:** Data Structures and Algorithms, Machine Learning with Tensorflow, Deep Learning with Keras, Natural Language Processing, Operating systems

Experience

Graduate Research Assistant   October 2024 – Present
- Working with Large Language models like Llama 3.1, Mixtral, GPT-Neo, DeepSeek to generate personas, and inference their persuasion capability in a convincer-skeptic scenario, using prompt engineering and finetuning.
- Developing a method to analyze how models that score higher in persuasiveness exhibit biases and tendencies toward sycophancy.

Software Engineer Intern, ASML – Veldhoven, Netherlands   April 2023 – October 2023
- Developed a Python and PostgreSQL solution for automatic termination of background algorithms exceeding execution time limits and implemented a deadlock prevention mechanism for concurrent processes in the IPVD tool.

Cybersecurity Risk Associate, PWC SDC – Kolkata, India   May 2021 – September 2021
- Collaborated with cross-functional teams to enhance data security by improving user access provisioning and deprovisioning processes, reducing access-related risks, and ensuring compliance through risk assessments and Sarbanes-Oxley (SOX) Act testing.

Undergraduate Research Assistant   June 2019 – May 2020
- Developed a Multimodal sentiment analysis model and published a research paper on it in IRTM'22, published by IEEE Xplore [Article].
- Worked on 'Comparative study of Sentiment Analysis of Human Speech using 2D- Convolutional Neural Network and Dense Neural Network', published in ICCTA' 2021 [Article].

Projects

Google Gemini Developer Competition [Link]   June 2024 – August 2024
- Developed a platform that allows users to connect, share projects and research ideas with varied backgrounds. It uses Gemini LLM at the backend for content recommendation, selection and filtering.

Data Intelligence Challenge [Github]   March 2023 – May 2023
- Developed various Deep Reinforcement Learning agent models (DQN, DDQN, and Q-learning.) for pathfinding and autonomous navigation tasks that used a grid-based navigation system. Also designed custom environments and grid configurations.

IBM Hackathon [Github]   April 2020
- Received certificate of appreciation at national level in India for developing a multi-state classification model, for categorizing emotional polarity of tweets on COVID-19 pandemic using ANN that functioned in real-time.

Technical Skills

Languages: Python, C++, C, R, SQL, PySpark, HTML, CSS, Bash

Framework: Apache Spark, Keras, Tensorflow, Pytorch, Docker, Dash, Plotly.

Core Competencies: Deep Neural Networks, Transfer Learning, Large-Language-models, Data Structures and Algo

Achievements and Activities

- Got accepted in Stanford Summer School Sessions Courses in March 2018
- Best paper award for "Sentiment Analysis of Human Speech using Convolutional Neural Network" in UEMCOS'21
- Ranked 111th in state of WB in International Informatics Olympiad 2011 by Computer Literacy Foundation, New Delhi.