# Saumya Roy



## **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].

#### **Education**

TU 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

## **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.

## **Programming and 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.