Bhupender Bindal

Riedenkamp 9, Braunschweig 38108

+49 17635676208 | bhupender.bindal@gmail.com | 04-04-1994 | bhupenderbindal.github.io/ | github.com/bhupenderbindal

Personal Profile

A master's student in the fourth semester of the Computational Sciences in Engineering course at TU Braunschweig with a keen interest in machine learning and programming. Possesses experience in machine learning and Python programming acquired through engagement in Studienarbeit, HiWi positions and personal projects.

Relevant Experience

PTB *Braunschweig, Germany*

HiWi student *June 2022 - April 2023*

- Project: Sample tip distance control in Atomic Force Microscope (AFM) simulation using AI controller
- Implemented features including training data augmentation, prioritized experience play and dueling network outlined in the improvement in Deep Q-Network research paper
- Streamlined repeated training and storage of results
- Assesed the repeatability and reproducibility of the methodology
- Created preliminary project documentation using Sphinx

Ostfalia Hochschule *Wolfenbüttel, Germany*

HiWi student *June 2022 - February 2023*

- Project: KI4All
- Worked on two microcredits: History of AI and Single Layer Perceptron
- Developed teaching materials and designed exercises for the courses

Education

Technische Universität Braunschweig *Braunschweig, Germany*

Masters in Computational Sciences and Engineering *October 2021 - Current*

- Grade: 2.1 out of 4

University Projects

Studienarbeit: Multi-view classification of chloroplast cells *Braunschweig, Germany*

Technische Universität Braunschweig *May 2023 - August 2023*

- Implemented Multi-view Convolutional Neural Networks using PyTorch and Lightning libraries to classify microscope scale images of chloroplast cells
- Conducted training for both multi-view and single-view methods on simulated data and subsequently assessed their performance on simulated data and real-world scenario data.
- Analyzed and deliberated on the potential constraints and drawbacks of the approach in real-world situations.

Personal Projects

Geographical map representation showcasing data about winners of the 2019 Lok Sabha elections on a Geographical Map *Braunschweig, Germany*

Technische Universität Braunschweig *August 2023*

- Developed an interactive visualization of information about the winners of the 2019 Lok Sabha elections on the geographical map.
- Scraped the required data from two websites and performed necessary preprocessing for effective plotting.
- Leveraged the Pydeck library to transform data into an interactive map visualization.

Minor projects *Braunschweig, Germany*

Technische Universität Braunschweig *October 2021 - December 2021*

- Dogs and cats image classification using transfer learning
- Calculator using the Tkinter library

Skills

Programming	Python (Pandas, PyTorch, NumPy, Scikit-learn. etc.)
Miscellaneous	Linux, Shell (Bash), LaTeX(Overleaf), Microsoft Office, Git, Yaml.
Soft Skills	Time Management, Teamwork, Problem-solving, Documentation, Engaging Presentation.
Language	English: Professional proficiency (IELTS 7.5), Deutsch: Limited proficiency (DSH 1), Hindi: Native proficiency