Subhasis Biswas

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Education

M.Tech in Computational and Data Science **2023 – 2025**
Indian Institute of Science, Bangalore *CGPA: 8.40/10*

M.Sc. in (Pure) Mathematics **2020 – 2022**
Ramakrishna Mission Vivekananda Educational and Research Institute, West Bengal *CGPA: 8.40/10*

B.Sc. in Mathematics **2017 – 2020**
Durgapur Government College, West Bengal *CGPA: 8.48/10*

Higher Secondary Education **2015-2017**
Bidhan Chandra Institution, Durgapur *Percentage: 86.8 %*

Secondary Education **2010-2015**
Durgapur Vidyasagar Model High School *Percentage: 90.29 %*

Projects

Adaptive CNN Gesture Recognition: Real-Time Capture and Model Integration **Jan 2024**

- Engineered a robust **Gesture Recognition System**, achieving a **98% accuracy** on test data, using **Python**, **OpenCV**, **Keras** and **TensorFlow** with a **CNN** model.
- Developed an **interactive console interface** for real-time **Gesture Capture** via webcam.
- Demonstrated proficiency in **Image Processing**, **User Input Handling**, and efficient data management with organized storage using log files and session IDs for training data.
- Gained hands-on experience in utilizing **Git Version Control**, maintaining **GitHub Repository**, and learned the process of releasing **pip installable projects** on PyPI (on Linux OS only).

Unveiling Patterns in Shopping Behavior **Dec 2023**

- Conducted **EDA** on the "Consumer Behavior and Shopping Habits Dataset", employing **PCA**, **Unsupervised** and **Supervised Learning Algorithms** to find insights into the purchasing habits of customers.

Coding a feed-forward neural network from scratch **Dec 2023**

- Created a **Feed-Forward Neural Network** for the **MNIST** dataset, emphasizing skills in neural network architecture, forward propagation, and **backpropagation**, achieving **96% accuracy**.

Coursework

(* for ongoing)

- Numerical Linear Algebra (A+)
- Introduction to NLP*
- Stochastic Modelling (A)
- Machine Learning*
- Numerical Methods (A+)
- Deep Learning for CV*

Relevant Assignments and Classworks

- Image Compression using **Singular Value Decomposition**
- Programming Assignments in **Numerical Methods**
  Root finding Methods, ***Polynomial Interpolations***, *Solution to Initial Value Problems in Differential Equations*
- **Linear** and **Logistic Regression** from scratch
  Implemented Linear and Logistic Regression from scratch and applied gradient descent and various techniques. Performed visual analysis of the outcome

Technical Skills

Programming Language(s): Python *(Experienced)*, C++ *(Beginner)*, R *(Beginner)*
Tools: Numpy, Pandas, Matplotlib, TensorFlow, Keras, Sci-kit Learn, OpenCV, PIL, LaTeX, MS Office, BeautifulSoup
Technical: Machine Learning, Image Processing, Optimization, Deep Learning
Additional Familiarities (Beginner Level): Linux (Ubuntu), AWS, Wolfram Mathematica, Python Scripting for Automation, Web-scraping, Git, GitHub, MySQL

Academic Accomplishments

- Secured AIR 2 in GATE MA 2023
- Awarded Swami Vivekananda Merit-Cum-Means Scholarship during postgraduate study.
- Secured AIR 461 in IIT JAM 2020