

Abdullah Al Saqib Majumder

Brighton, UK | alsaqib.majumder01@gmail.com | [linkedin.com/in/alsaqib/](https://www.linkedin.com/in/alsaqib/) | [al-saqib.github.io](https://github.com/al-saqib)

OBJECTIVE

Aspiring PhD researcher with an MSc in AI, focused on integrating computational neuroscience and deep learning methodologies to investigate neural mechanisms of cognition and intelligence.

EDUCATION

University of Sussex

MSc in Artificial Intelligence and Adaptive Systems (*Distinction*)

UK

Sep 2023 – Sep 2024

- Modules: Machine Learning, Adaptive Systems, Neuroscience of Consciousness, Intelligent Systems, Algorithms.

Neuromatch Academy

Summer Schools in Computational Neuroscience, Deep Learning and Neuro-AI

Virtual

Jul 2022, 2023 and 2024

- Modules: Dynamical Systems, Reinforcement Learning, CNNs, Transformers, Contrastive Learning

University of British Columbia

BA in Economics and Statistics (*2:1*)

Canada

Aug 2017 – Nov 2021

- Modules: Statistical Inference, Optimization, Time-Series Analysis, Econometrics, Differential Equations, Graph Theory, Game Theory, Linear Algebra, Probability, Stochastic Processes, Cognitive Neuroscience

RESEARCH EXPERIENCE

Graduate Researcher

University of Sussex

Mar 2024 - Aug 2024

Brighton, UK

- Developed a neuro-behavioural model using Predictive Processing and Hierarchical Gaussian Filters frameworks.
- Validated the model using open neuro-behavioural and experimental datasets.
- Thesis: Investigating Attention Manipulation Using Hierarchical Gaussian Filters.

Undergraduate Researcher

The University of British Columbia

Jan 2021 - May 2021

Vancouver, Canada

- Analysed socio-economic effects of the 1968 H3N2 pandemic using R and Stata.
- Thesis: Economic Consequences of 1968 Influenza Pandemic

PROJECT EXPERIENCE

Cognitive Social System

University of Sussex

Jan 2024 - Apr 2024

Brighton, UK

- Using reflexivity theory and cognitive social structures, a novel social system was designed that maps perception and action in a social network for embedded agents, subsequently optimized using a microbial genetic algorithm
- Numpy, matplotlib and networkx packages were used for the implementations. Code: Cognitive Social System

Multilayer Perceptron (MLP)

University of Sussex

Jan 2024 - May 2024

Brighton, UK

- Developed and optimized a multilayer perceptron model to predict crop export values using UN datasets
- Utilized Keras, Pandas, and Scikit-Learn for modeling and implementation. Code: MLP

Minimax Algorithm with Alpha-Beta Pruning

University of Sussex

Jan 2024 - Mar 2024

Brighton, UK

- Designed a checkers game that can be played against a human or an AI (Minimax) agent with alpha-beta pruning.
- Tkinter and Random packages were used for the implementation. Code: Checkers AI

Evolutionary Arms Race

University of Sussex

Jan 2024 - Mar 2024

Brighton, UK

- Co-evolution of moths (prey) and bats (predator) were modelled using relevant literature
- Traits and strategies of both species were optimized using a genetic algorithm. Code: Bat-Moth Arms Race

Genetic Algorithm for Shoaling

University of Sussex

Sep 2023 - Jan 2024

Brighton, UK

- Implemented genetic random search algorithms to optimize shoaling behaviour of fish agents to avoid being hunted by a predator agent in the agent-based simulation. Link: Genetic Algorithm Shoaling

Deep Q-Learning (DQN)

Jul 2023 - Jul 2023

Neuromatch Academy

Virtual

- Improved speed and stability of a DQN agent trained in Gymnasium's Lunar Lander environment by tuning the model's hyperparameters and adding a custom reward function
- Pytorch and Stable Baselines packages used for the implementations. Code: Lunar Lander

Attractor Networks

Jul 2022 - Jul 2022

Neuromatch Academy

Virtual

- Hopfield network is used to test how ANNs perform under physiological constraints such as time and energy
- Coded with Python and Tensorflow library. Code: Attractor Networks

WORK EXPERIENCE

Data Scientist

Nov 2023 – Aug 2024

Health-equity.ai

Brighton, East Sussex

- Cleaned and prepared massive NHS datasets such as NDA and IMD data to address healthcare inequity in UK.
- Analyzed patient outcomes using XGBoost and SVM models, identifying socio-economic clusters that strongly correlated with healthcare disparities, leading to targeted interventions.
- Findings were presented at Royal College of Physicians (RCP), receiving commendation for impactful insights.

Co-founder and Chief Data Officer

Dec 2021 – Sep, 2023

Stealth Health AI Startup

Vancouver, Canada

- Oversaw data modelling and management pipeline for X-ray image analysis platform.
- Predicted patient health outcomes by recognizing anomalies using deep learning algorithms.
- Beta-tested the X-ray analysis platform at select hospitals.

Project Developer

May 2018 – Dec, 2018

Emerging Media Lab (Augmented and Virtual Reality Laboratory)

Vancouver, Canada

- Created a web-based platform for visualizing mathematical equations. Link: Math World
- Presented the app to a crowd of around seventy people at EML tech demonstration at UBC.

TECHNICAL SKILLS

Programming Languages: Python, R, Java, MATLAB, SQL, Stata

Developer Tools: Git, Anaconda, AWS, MySQL, ChatGPT, Obsidian, Notion

Libraries & Frameworks: Gambit, Pandas, NumPy, Seaborn, Matplotlib, Scikit-Learn, Tensorflow, Pytorch, Keras

FELLOWSHIPS AND AWARDS

Asia Pacific Next Generation Fellow (Japan): Membership to Asia's IT leadership community

Gold Spirit Award (Sussex): Recognition for contributing to greater Sussex community

Informatics and Engineering Award (Sussex): £2000, admission scholarship for outstanding candidates

International Student Scholarship (UBC): 5000 CAD, for above average performance during sophomore year

Outstanding International Student Award (UBC): 10,000 CAD, admission scholarship for outstanding candidates

OTHER QUALIFICATIONS

University of Pisa: Consciousness and Cognition Summer School Certificate

Harvard: Fundamental Neuroscience Specialization

Helsinki: Introduction to AI Course

VOLUNTEERING

President | *Consciousness Society Sussex, University of Sussex*

Mar 2024 – Aug 2024

- Worked with fellow students to hold events, initiate discussions and increase awareness about consciousness science to the greater Sussex community.

Wildlife Conservation Volunteer | *Sibya Wildlife Reserve, South Africa*

Oct 2024 – Oct 2024

- Worked with fellow volunteers to clean riverbanks, monitor elephants and lions, and survey Sibuya Wildlife Reserve and Addo National Park at Port Elizabeth.