# Ruxandra Ioana Mihai

London, United Kingdom ruxandramihai13@gmail.com +44 (0) 7547231162

ruxandramihai.github.io/my-website

## Education

**Imperial College London** *Sept 2022 – Sept 2023*

*MSc Computational Neuroscience (Focus: Machine Learning and Data Science)* ***(Distinction)***

- Modules: Python, Databases, Machine Learning, Deep Learning, Object Oriented Programming
- Developed machine learning and deep learning models, including time-series forecasting for predictive analysis using multi-modal clinical datasets in Python
- **Hackathon**: Analysed data from patients with COVID-19 **Harvard University Machine Learning Competition:** Developed a deep learning model for seizure detection using PyTorch

**The University of Manchester** *Sept 2019 – Sept 2022*

*BSc Neuroscience* ***(First-Class)***

## Experience

**Data Scientist** *Sept 2023 – Oct 2024*

*UK Dementia Research Institute, Care Research & Technology Centre*

- Pre-processed multi-modal data from genetics, clinical, sensors and wearable devices, brain imaging, clinical assessmnets and EHRs. Designed, developed and deployed machine learning and deep learning models for predictive analysis using scikit-learn and PyTorch
- Implemented advanced machine learning techniques, Large Language Models on unstructured records to identify subsets and features, enhancing cross-data source integration, which resulted in a 20% increase in accuracy
- Applied natural language processing (NLP) and Large Language Models to analyse scientific publications from the UK Dementia Research Institute, creating a retrieval-augmented generation (RAG) system. Developed and deployed a web application on **AWS** integrating the RAG system using **Django** and **SQL**
- Conducted consultative support through presentations, training resources, and guidance for MSc students.
- **Conferences:** UK DRI Care Research and Technology Monthly Meeting (Presentation); UK DRI Connectome (Poster); UK DRI Director's Visit (Poster))

**Research Project** *Feb 2023 – Sept 2023*

*Imperial College London*

- Used and Generative AI (denoising diffusion probabilistic models) to generate synthetic data for imbalanced datasets and improved downstream classification tasks
- Wrote research proposal for the Generative AI project, leading to its selection and approval
- Collaborated in an interdisciplinary team consisting of clinicians, scientists and engineers

## Technical Skills

**Programming:** Python (Scikit-learn, PyTorch, TensorFlow, NumPy, Pandas, Matplotlib, Seaborn), SQL, R, MATLAB, git, bash, LaTeX

**Certificate:** Cambridge Centre for AI in Medicine Summer School

**Data Handling:** digital sensors, brain imaging, genetics, EEG signals, electronic healthcare records

**Cloud/Data Systems:** Familiarity with Cloud architectures, SQL databases, APIs

## Prizes and Awards

**Stellify Award:** time-management, communication, organisational skills

**CDT AI4Health Studentship** at Computing Department, Imperial College London