JAMIE NORRIS

@ norrisjamie23@icloud.com norrisjamie23.github.io linkedin.com/in/norrisjamie23 github.com/norrisjamie23

SUMMARY

Final-year PhD candidate applying machine learning and signal processing to model epileptic brain states. Experience applying data science in the football industry across multiple roles, including match prediction and AI applications. Proficient in Python with skills in data visualisation using matplotlib and seaborn. Passionate about football and how analytics can enrich analyses. Experienced in research, software development, and mentoring, including supervision of an MSc dissertation and six placement students. Skilled in effectively communicating complex concepts, developed through interactions with clinical audiences during PhD research.

EDUCATION

PhD Artificial Intelligence Enabled Healthcare

September 2021 – Present

University College London

London, UK

- **Thesis:** *Single-pulse electrical stimulation and its brain-state dependency: an integrated approach to identifying regions of epileptogenicity*

MRes Artificial Intelligence Enabled Healthcare

September 2020 – September 2021

University College London

London, UK

- **Degree classification: Distinction (76%)**
- **Dissertation:** Clustering and forecasting of interictal epileptiform discharges using machine learning

MSc Artificial Intelligence

September 2018 – August 2019

The University of Edinburgh

Edinburgh, UK

- **Degree classification: Merit (72%)**
- **Dissertation:** Understanding and affecting the accuracy/throughput trade-off of object detection neural nets for self-driving cars

BSc Computer Science and Mathematics

September 2014 – June 2018

Loughborough University

Loughborough, UK

- **Degree classification: First-Class Honours (77%)**
- **Dissertation:** Football detection using convolutional neural networks

RESEARCH EXPERIENCE

Deep Learning Research Intern

June – September 2018

Loughborough University

Loughborough, UK

- Selected by dissertation supervisor for extended research collaboration with industrial partner, Statmetrix.
- Extended *Football Detection Using Convolutional Neural Networks* project to include object tracking.
- Conducted a comprehensive literature review on object tracking to inform and guide project development.

TEACHING AND SUPERVISION

Postgraduate Teaching Assistant (PGTA)

September 2022 – April 2023

University College London

London, UK

- **Programming with Python for Health Research**: Guided students through health-focused Python exercises and contributed to marking.
- **Machine Learning in Healthcare and Biomedicine**: Facilitated lab exercises and class discussions in a specialised ML module.

Supervisory Roles

- Supervised an MSc Neuroscience dissertation on *Unsupervised Seizure Detection using a Convolutional Autoencoder* (see portfolio), while designing a tailored research syllabus.
- Mentored two Nuffield Research Placements, focusing on machine learning applications in epilepsy, and provided a structured learning syllabus.
- Directed an industry-based Summer Internship programme, introducing four interns to Python and football analytics; designed original teaching materials and syllabus.

PROFESSIONAL EXPERIENCE

Artificial Intelligence Developer

October 2023 – Present

Sentient Sports

London, UK

- Contributed to ScoutGPT, an LLM for football scouting that generates reports and answers player-related questions.
- Utilised both existing and novel deep learning methods to predict football match outcomes.

Machine Learning Engineer

April – June 2021

Binary Vision

London, UK

- Engaged in machine learning consultancy, specialising in time-series forecasting, while pursuing PhD research.
- Primarily client-facing role, advising on the feasibility and design of machine-learning solutions.

Computer Vision Engineer

November 2019 – September 2020

Statmetrix

London, UK

- Developed custom video stitching software and resolved bugs for grassroots football analytics software.
- Led the design of a 2D mapping system to convert player and ball coordinates into a bird's-eye view, crucial for analytics.
- Employed OpenCV, Python, and NumPy to design CNN-based detection and tracking models for football analytics.

PUBLICATIONS AND INVITED TALKS

Talk at CAI4H 2024

May 2024

UKRI AI CDTs in Healthcare Conference 2024

Edinburgh, UK

- Presented PhD research on the application of deep learning algorithms to epilepsy data, introducing the audience to key epilepsy concepts.

Talk at ICNC 2024

May 2024

18th International Child Neurology Congress

Cape Town, South Africa

- Presented PhD research at the Artificial Intelligence for Epilepsy symposium, introducing the clinical audience to machine learning and its potential to improve epilepsy outcomes.

Publications

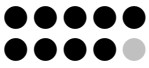
- *Localising the Seizure Onset Zone from Single-Pulse Electrical Stimulation Responses with a CNN Transformer*, Machine Learning for Healthcare, Toronto, August 2024

PORTFOLIO

Full portfolio available at `https://norrisjamie23.github.io/portfolio`

SKILLS

Python, NumPy, MNE-Python, Pandas, Scikit-learn, PyTorch, OpenCV, Matplotlib, Git
Keras, Unix, mplsoccer, Statsbomb data, XGBoost, Seaborn



FUNDING

AI-enabled healthcare CDT studentship

- Full studentship for MRes and PhD, as part of the Centre for Doctoral Training in AI-enabled Healthcare at UCL.