

James Chapman

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Skills

Programming Languages:

🐍 Python, 📊 R, 📐 MATLAB, >_ Bash, 🗄️ SQL

Machine Learning Tools:

PyTorch, Keras, Scikit-Learn, Pandas, NumPy, SciPy, Jax, NumPyro

Machine Learning Techniques:

Deep Learning, Computer Vision, Supervised and Self-Supervised Learning, Reinforcement Learning

Software Development:

git Git, 🛠️ CI/CD, 🧪 Unit Testing

Education & Qualifications

- 2019 - present **University College London**, London, UK
PhD + MRes (Distinction) funded by i4Health CDT
Scalable Self-Supervised Learning for High-Dimensional Biomedical Data
Supervisors: Prof. Janaina Mourao-Miranda & Prof. John Shawe-Taylor
- 2013 - 2017 **University of Oxford**, Oxford, UK
MEng Engineering, Economics & Management (EEM), 1st Class
- 2008 - 2013 **Wellington College**, Crowthorne, UK
*5 A-Level A*s in Maths, Further Maths, Physics, Chemistry, Economics*

Work Experience

- Sep-19 - present **University College London**, London, UK
Assistant Lecturer + Teaching Assistant
- Lectured on *Foundations of AI* and taught *Supervised Learning, Numerical Optimisation, and Machine Learning for Domain Specialists* courses.
- Aug-22 - Oct-22 **Bank of England**, London, UK
PhD Intern: Advanced Research
- Solved previously intractable DSGE models using Reinforcement Learning (PPO).
- Sep-17 - Sep-19 **M&G**, London, UK
Analyst: Systematic Investment Research Team
- Built version 1 of the €209m Global Maxima quantitative fund.
- Leader of the Python Interest Group

Key Publications

- "Efficient Algorithms for the CCA Family: Unconstrained Objectives with Unbiased Gradients." Under review at ICLR 2024. *scalable, fast algorithms for multiview learning on large-scale data.*
- "CCA with Shared Weights for Self-Supervised Learning." Presented at NeurIPS 2023 Workshop. *a technique for self-supervised representation learning finding correlated representations of two views or augmentations of the same sample e.g. images and captions*

Software Development

- **CCA-Zoo**: A comprehensive collection of multimodal machine learning methods integrated with scikit-learn. Modern CI/CD pipelines, robust testing, ML pipeline integration. 🌐 CCA-Zoo ★ 161

Outside of Work

🚣 Rowing with Vesta Rowing Club, 🏆 Reading FC fan for 20 years, and a keen viewer of 🏎️ Formula 1