JAMES DORRICOTT jamie.dorricott@hotmail.com | jdorri.github.io | linkedin.com/in/james-dorricott

PROFESSIONAL EXPERIENCE

Lead Machine Learning Engineer/Scientist, Abingdon Health **Jan 22-Present**
Machine Learning Engineer/Scientist, Abingdon Health **Feb 21-Dec 22**

- Designed/implemented a two-stage **deep learning** system for detecting/reading rapid diagnostic tests.
- Achieved 0.99 test AUROC on a blood antibody test used to prove-out the algorithm (company RNS).
- Collaborated with the CEO to deploy the patented read algorithm/SDK into commercial applications.
- Curated **image classification** datasets using custom built software and a bespoke labelling workflow.
- Developed a **Python** codebase for productionizing CNN-based image classifiers, using TensorFlow for model building/training, Weights & Biases for experiment tracking, and Flask for prediction serving.
- Trained custom **object detection** models and annotated datasets with the TF Object Detection API.
- Researched/incorporated state-of-the-art research methods on ML systems design into the product.
- Deployed the end-to-end system via a dockerized Python web API for inference/stakeholder demos.
- Compressed prediction models with TF Lite for use on-device and deployment to smartphone apps.
- Evaluated algorithm performance on real-world clinical study data to assess model generalizability.
- Set up/maintained Linux Nvidia GPU workstations for DL workloads/production training pipelines.

Equity Research Analyst, Product Management, Exane BNP Paribas **Feb 17-Aug 19**

- Managed the Exane BNPP research pipeline, collaborating with 100 analysts and a global salesforce.
- Curated and chaired the European Morning Meeting; co-chaired the Investment Review Committee.
- Collaborated with equity strategists and sector teams in the production of department-wide reports.
- Monetised Exane's flagship investor conference in Paris (attended by 100 corporates/700 investors).
- Published independent analysis on European earnings season trends in strategy-themed reports.
- Updated financial models for the Real Estate equity research team during annual reporting season.

Product Management Associate, Exane BNP Paribas **Sep 16-Jan 17**

- Supported the Product Management team and Quality Control analysts in daily research activities.

Equity Analytics Analyst, Libra Investment Services **Sep 13-Sep 16**

- Established a distinguished track record of Apollo® trading views as part of a best ideas portfolio.
- Won Man Group's top broker award for Europe trade idea performance in 2015 (£400k cash prize).
- Delivered portfolio advisory services and provided education on the Apollo® valuation methodology.
- Won research commissions from senior Portfolio Managers and expanded the Apollo® user base.

Apollo® Intern, Libra Investment Services **Jun 13-Aug 16**

- Completed a rotational internship in Apollo® analytics and sales, receiving a full-time analyst offer.

EDUCATION

MSc Artificial Intelligence, Imperial College London (Merit) **Oct 19-Oct 20**

- Core content: symbolic AI; foundational ML; Python programming; software engineering; AI ethics.
- Electives: Mathematics for ML: Deep Learning; ML for Imaging; Computational Optimization; NLP.
- Group project highlight: developed a reinforcement learning product for medical imaging use-cases using industry software engineering techniques (Agile, version control, testing, CI); awarded 81%.
- Coursework highlight: implemented/evaluated modern deep learning architectures (CNN, RNN, GRU, LSTM, VAE, GAN) using PyTorch on problems in vision and language (88% average grade).

BSc Physics, University of York (First Class Honours) **Oct 10-Jul 13**

- Core content: fundamental and theoretical physics; mathematics; experimental labs; computing.
- Top scoring electives: Intro. to Quantum Computing (88%); Special & General Relativity (85%).
- Research achievement: final-year dissertation awarded 80% and nominated for best BSc/Msc project.

RESEARCH PROJECTS

Neural Network Verification, MSc AI Individual Project **2020**

- Developed a **MILP optimization** algorithm for verifying high-dimensional neural networks using input splitting techniques to reduce the search space (paper); achieved a x3 certification speedup on MNIST.
- Designed/built a distributed system for sharing verification subproblems over a network of CPUs.
- Lab: Verification of Autonomous Systems (supervisor: Alessio Lomuscio).
- Tools: **Python**, Gurobi optimizer, (Python) multiprocessing.

RL for Medical Imaging, MSc AI Group Project & Software Engineering Practice **2020**

- Designed/built a GUI for performing 3D landmark detection with **reinforcement learning** agents (demo).
- Implemented a variation of the Deep-Q-Network algorithm using GUI-collected demonstration data.
- Lab: Biomedical Image Analysis (BioMedIA).
- Tools: **Python**, PyQT, TensorFlow 1.

Plasma Diagnostics, BSc Physics Individual Project **2013**

- Used plasma spectroscopy to model core electron conditions during laser-driven fusion experiments.

PROFESSIONAL & ACADEMIC PRIZES

Top Europe Contributor, Man AHL Ideas Platform (£400k prize) **2016**
Winner, Instructus Markets Student Finance Competition **2013**
Shortlist, Goodwin Project Prize, York Physics Dept. **2013**

PROFESSIONAL QUALIFICATIONS

CFA Program, Level II **2018**
CFA Program, Level I **2015**
CISI Capital Markets Programme **2014**

VOLUNTEERING

A-Level Mathematics Tutor, The Access Project **2021**
Financial Education Analyst, Cedro Alto Coffee Collective **2019**

COMPUTING SKILLS

- **Programming**: Python, Bash, LaTeX, MATLAB, HTML, Prolog
- **Frameworks/tools**: TensorFlow, TensorFlow Lite, PyTorch, Scikit-learn, W&B, Docker, Git, Azure