William Harris

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Data Scientist

WORK EXPERIENCE

Machine Learning Engineer, Poplar Studio, London   **Apr 2021 — Present**

- Responsible for ML and product R&D at an early-stage start-up, reporting to the CTO.
- Trained deep learning models to solve ecommerce sizing problems using PyTorch and PyTorch Lightning. Reliably measures a customer's bracelet or watch size to within 5mm.
- Tracked experiments with Weights and Biases. Deployed web-service backend using FastAPI on AWS. Scales to 100s of concurrent users using serverless (AWS Lambda).
- Led end-to-end development of a web-based 3D ring and watch try-on experience using an off-the-shelf keypoint tracking model. Liaised with management and customers to prioritise features.
- Trained image segmentation model to enable automatic AR jewellery try-ons from client's existing product images. Developed solution to shape the processed images in 3D space, providing an alternative to 3D modelling, reducing cost from $200-$1000 per item to almost zero.
- Created pipelines to generate synthetic training images for a variety of projects, producing high quality data for low cost.

Data Scientist, FTI Consulting, London   **Jul — Aug 2019 (Intern), Nov 2019 — Apr 2021**

- Responsible for modelling and data engineering on client projects.
- Used CNNs to develop object detection and face recognition to search 10,000s of images for relevance.
- Implemented deep-learning NLP models matching human-level performance; led to £100k client engagement. Organised effort to label 7,000 examples across team in 2 days.
- Developed internal library for rapid data preparation and NLP model training. Implemented practices and techniques such as cyclical learning rates, learning rate finder, back translation, class weights (TensorFlow), resulting in higher accuracy in less training time.
- Automated data pipelines in Airflow; deployed ML models to production with Docker. Saved 3+ hours per day of manual work.
- Designed database architecture and scalable backend solution of web application providing social media statistics and AI services (Python/Flask, Celery).

VOLUNTURY EXPERIENCE

Oxford Nightline Listening Volunteer   **Nov 2018 — Jun 2019**

- Provided confidential listening support to members of Oxford and Oxford Brookes universities.
- Responsible for maintaining the organisation's public-facing and internal website.

English and numeracy programme, Ashcombe School, Dorking, UK   **2011 — 2015**

- Mentored children one-to-one aged 11 – 14 with reading, spelling and numeracy difficulties.

EDUCATION

Wadham College, University of Oxford   **Oct 2015 — Jun 2019**

- MMath Mathematics: upper second class.
- Coursework: probability, statistics, machine learning, data science, network science.

COMPENENCIES

- Standard data science tools in Python (numpy, pandas, matplotlib, scikit-learn). SQL. Deep learning frameworks with a preference for PyTorch.
- Git, containerisation (Docker), cloud compute for development and deployment (AWS).
- Deploying ML-powered products as scalable web services and REST APIs. Flask, FastAPI.