Michael Gordon

Applied Research Scientist

London / Seville
+34 633700457
hello@michaelgordon.io
linkedin.com/in/michaelalexandergordon

Skills

- **Deep Learning Frameworks**: PyTorch*, PyTorch Lightning*, ONNX, Caffe2, Caffe, TensorFlow, Keras
- **NLP Libraries**: HuggingFace*, AllenNLP, Gensim, NLTK, SpaCy*, Stanford CoreNLP
- **ML/CV Libraries:** Pandas, NumPy, SciPy, scikit-learn, fast.ai, OpenCV*, Pillow
- **Languages**: Python*, Java, C++, SQL, Ruby, JavaScript
- **Databases**: PostgreSQL, MySQL, Elastic Search, Cassandra, MongoDB, Neo4j
- **Frameworks**: Airflow*, Flink, Kafka, Spark, Django, Flask, Ruby on Rails, Celery
- **Cloud**: AWS*, Google Cloud, Azure (* Preferred)

Experience

Head of AI

2018 - 2020

Send Technology

Hands-on design, development and delivery of innovative solutions and patent-pending intellectual property within the commercial insure-tech industry. Reporting directly to the CEO, responsible for, and built a team to:

- design, implement and evaluate models, agents and software prototypes of perceptual processing.
- implement the latest state-of-the-art solutions from research papers into code and adapt these to our domain.
- build highly performant, multifaceted AI systems to perform Deep Learning Computer Vision and NLP tasks such as Super Resolution, OCR, Object Detection and Image Segmentation, Text Classification, Named Entity Recognition, Reading Comprehension and Open Information Extraction.
- productionise and automate AI/ML/data processing pipelines for model training, inference, evaluation, and A/B testing.
- develop and deliver AI system software components through CI/CD tiered environments to successfully meet clients' Release Schedule agreements in coordination with our Delivery Manager, Back-End and Front-End teams.

Business / client-facing responsibilities:

- setting the strategic goals and vision for the company with regards to AI.
- representing the company in pre-sales, sales, client steering-committee and data compliance meetings; as well as research / industry events (e.g. European Commission Joint Research Centre's session on the Ethical, Legal, Social and Economic of AI).
- protecting the company's Intellectual Property and reducing our Corporation Tax liabilities through patent applications (making use of the Government's Patent Box program).
- setting up AI-related partnerships (e.g. with NVIDIA and Microsoft; to be granted over $100,000 worth of GPU credit on AWS/Azure).
- evangelizing an AI-first approach to improve clients' operational efficiencies, enable continuous operational improvements and plan for future optimisations.

Lead Machine Learning Engineer

2016 - 2018

Piksel

Proposed and led initiatives to:

- productionise proof-of-concepts from LingoSpot acquisition; adding patented Natural Language Processing, Semantic Search, Image Analysis and Machine Learning technologies to Piksel's video solution microservice offerings.
- build end-to-end one-shot object detection, facial recognition and similarity matching pipeline to match character and actor faces across different media content and actor ages, built with YOLOv2/3, OpenCV and Inception V3; taking the Cosine-Similarity of the final layer embeddings.
- implement real-time, live stream video recommendations for renowned Talks client; analysing transcripts from speech-to-text, recommending talks based on transcript similarity. Baseline topic models with NMF and SVD. Final solution with: AWD LSTM Language Model architecture with pre-trained WikiText-103 weights; fine-tuned on a Talks transcript corpus, transcript Text Summarisation, Named-entity Recognition, and Cosine-Similarity of AWD LSTM final layer activations.
- create an explainable AI visualisation for object detection and descriminative localisation by taking the final layer Class Activation Mappings from a Deep Residual Neural Network.
- automate video asset analysis; reconciling file name against digital slate text via Optical Character Recognition (OCR). OCR pipeline includes CNNs, Bi-directional LSTMs and a Connectionist Temporal Classification (CTC) layer.
- optimise new ML/AI feature delivery; formalising plugin point to parallelise core-product and ML/AI delivery.

Co-founder & Lead Data Scientist

2015 - 2016

Humm | Music for the Masses

Built the back-end Recommendation System and Search for a music streaming service with a catalogue of tens of millions of tracks. Results improved by audio track analysis; creating additional metadata to complement that from third party and user-generated sources.

Research Scientist

2013 - 2015

Universidad de Sevilla

Mathematically modelling social networks, such as Twitter, in the context of graph theory to predict future influencers. Weighted digraphs constructed from Tweet sentiment. Named-entity Recognition used to extend Follow graph.

Data Scientist

2014 - 2014

Skimlinks

PhD internship. Developed the product clustering algorithm and graph traversal systems for the Product Intelligence team. Performed and automated exploratory data analysis.

Quant

2011 - 2012

JP Morgan

Built an internally facing trading desk to manage collateral risk. Headed projects to define and implement systems architecture & controls for trade workflow, risk management and reporting.

Quant

2008 - 2010

Citi

Automated the existing Trader Portfolio Positions, P&L, Risk and Trade Settlement processes. Responsible for approving risk and settlement controls in the development of new internal Portfolio Management System.

Education

Masters Degree, Mathematics

2000 - 2004

University of Sussex

Minored in Philosophy.

Interests

Hiking, music, motorcycles, AI-supported journalism and generative art.