

BENEDICT CLARKSON

Senior Machine Learning Engineer

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github.com/bclarkson-code

London

WORK EXPERIENCE

Senior Machine Learning Engineer

Sky | May 2023 - Present

- Designed and built an anomaly detection system with kubernetes using distributed training and low latency inference of ML models to monitor a large-scale telecoms network infrastructure in real-time (10,000's of devices)
- Developed automated hyperparameter tuning and performance drift detection to ensure models adapt to frequent network changes
- Built custom time series modelling techniques from scratch and incorporated into model suite to improve anomaly detection performance

CTO & Co-Founder

AI Medical Technology | January 2022 – February 2023

- Served as CTO at medical AI startup, managing 10+ developer team
- Architected compliant infrastructure and CI/CD pipelines to meet strict industry regulations
- Acted as technical expert during regulatory audits, successfully demonstrating security and processes
- Secured over €1.5M in VC funding by pitching company's tech vision as CTO
- Migrated on-prem infrastructure to cloud-based system as part of scaling efforts
- Led technical strategy and execution from prototype to production system

Lead AI Developer

AI Medical Technology | August 2021 – January 2022

- Developed a computer vision model to detect skin cancer that outperformed expert dermatologists in a clinical trial, despite very limited data and compute resources
- Achieved state-of-the-art results by keeping up with latest research and rigorously evaluating real-world performance of cutting-edge methods
- Designed and built custom software tools to enable efficient model development under resource constraints, including a custom data augmentation pipeline, an automated data cleaning workflow and framework for reproducible experimentation

Machine Learning Master's Thesis Intern

Spotify | May 2021 – August 2021

- Developed natural language processing model using GPT-2 to predict user search intent on Spotify, improving performance over previous models
- Trained model on billions of historical Spotify searches and additional user data to identify whether users were searching for songs, albums, artists, etc.

PROJECTS

Tricycle Deep Learning Framework

Open Source

I am writing a [deep learning framework](#) from completely from scratch. At the time of writing, I have implemented the following features:

- Automatic differentiation engine
- Vectorised operations
- SGD and AdamW optimisers
- GPU acceleration including some custom Cuda kernels
- A library of layers including: MultiHeadSelfAttention, GeLU, RMSNorm etc
- Many more...

With the framework, I have successfully built and trained a small transformer to produce convincing shakespeare and I am working on scaling it up to a functional coding assistant. You can follow the progress on my blog: bclarkson-code.github.io

SKILLS

Technical

Large Language Models

Computer Vision

Python

Data Science/Statistics

Kubernetes

Big Data

Professional

Excellent communication

Strong problem solver

A knack for making complex things simple

EDUCATION

MSc in Data Science and Analytics

First Class, University of Leeds

2020 - 2021

BSc Mathematics and Physics

First Class, University of Leeds

2016-2020

AWARDS

Dean's Award for Outstanding Academic Achievement

University of Leeds (2017, 2018 & 2019)

INTERESTS

Climbing

Guitar

Travelling