George Ogden

https://goprogram.ai
george@goprogram.ai

PROFESSIONAL PROFILE

I have a vision to make high-quality, automated technology services available to everyone so that the world functions better. I use my experience with AI to create projects that make a difference in others' fields and demonstrate its power.

Qualifications

- Amazon Web Services Certified Machine Learning - Speciality
- Cert 5 Freelance AI Developer
- Amazon Web Services Certified DevOps Engineer - Professional
- Amazon Web Services Certified Developer - Associate

Skillsets

- Machine Learning
- Computer Vision
- NLP
- Time Series Forecasting
- Pytorch
- Tensorflow
- Keras
- AWS
- Git
- Docker
- Software development
- Web development

PREVIOUS PROJECTS

GoProgram (2019-2022)

I run GoProgram, a successful, micro-business, that showcases open-source programming projects and shares free Python tutorials. It contains a wide variety of programs, highlighting different aspects of programming and has a large focus on AI. The website is frequently updated to bring viewers new projects and keep up to date with the newest standards. I have coded everything on the website from scratch and it is free to use or modify any of the code. The web pages have been written using PHP, HTML, JS and CSS to create a unique finish with custom features and the APIs were written in Python and hosted serverlessly on AWS.

Vein Detection (2022)

Using Unet, an image segmentation model for medical imaging, I created a service to detect veins in tobacco leaves. The pipeline starts with a rolled-up image of a leaf and uses advanced imaging and scientific functions to unroll the leaf, align its edges and remove the background. With this processed image, it then runs the image through a trained model to generate a mask, which is an outline of all the veins in the plant. The service runs as a Flask app in a Docker container so that the client, who had had little experience working with Python libraries, could run it effortlessly.

Emotion Detection (2021)

I paired YOLOv5 with VGG to detect faces in images and then classify them to detect emotion. YOLO was trained on WIDER FACE – a dataset of 400,000 images in many different contexts with bounding boxes around the faces; VGG was trained on a publicly available subset of AffectNet – a dataset of 420,000 faces labelled with one of the eight natural emotions. After using Sagemaker to train the images, I wrote code to link them together so that they could run on a local machine using the webcam for real-time detection.

goprogram.ai
george@goprogram.ai

MuseGAN (2021)

Through GitHub, I contributed to Hao-Wen Dong's PHD Project, MuseGAN, which uses generative AIs to create artificial music from MIDI files. My main work on this project was in data preparation scripts, which convert the raw MIDI files into high dimensional tensors using another one of his projects that I contributed to, Pypianoroll. Currently, MuseGAN is the backbone of AWS' DeepComposer service, which shows how successful the project was.

Solarstream (2020)

I trained a YOLOv4 model and adapted some code by TheAIGuysCode on GitHub to detect and group solar panels. The training data consisted of video footage of drones flying over solar panels, which was used to train originally YOLOv3 and then YOLOv4 for a speed improvement using darknet. The original code had to be adapted so that the panels could be grouped and then a camera took pictures of each group and identified them so that they could relate back to the main display.

VOLUNTEERING

Charity Web Design (2020-2022)

The Send a Child to Hucklow Fund is a charity that provides holidays to young children from disadvantaged backgrounds who would not normally receive such an experience. When the lead webmaster retired from his position, I took up his place to redesign and take over management of the website: sendachildtohucklow.org.uk. This role allows me to increase the appeal of the charity to a wider audience, as well as practising my visual design skills, another hobby that I enjoy, and manage the digital infrastructure for an organisation.

Volunteering at Scope Charity Shop (2018-2019)

I have spent 100s of hours volunteering at the Scope charity shop. At first, I was responsible for hanging up clothes or sorting cards. However, as I would carry out tasks quickly and efficiently, often going above and doing extra to what was required, I became responsible for serving customers and setting up displays. Through Scope, I have improved my ability to interact with customers and my team-working skills, as well as refining my time management and organisation across a different environment. It is extremely rewarding knowing that you are making such a large difference to people both in and outside of the local community.

HOBBIES

One of my most passionate hobbies is cross country running. I train as often as I can, and I race most weekends, as I am part of the club South London Harriers. Through cross country, I have learnt to be committed and manage time well across sport and work.

In my spare time, I play the violin in an orchestra at Grade 8 standard. I find that playing the violin in a group requires a different kind of teamwork from other situations and is a great way to relax and socialise.

The least surprising of my hobbies is competitive programming. I recently began competing in CodeChef leagues, and I have now learnt a lot of advanced data structures and algorithms that have helped my programming in other areas and promoted me to the top division.