Finn Rea

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EDUCATION

University of Exeter **Exeter**
MSc Data Science (Apprentice) *October 2023 - present*

Newcastle University **Newcastle**
Computer science with year in industry (First Class – 87.3%) *September 2019 - June 2023*

WORK EXPERIENCE

Roche (Pharma)
Welwyn
Master Apprentice Data Scientist September 2023 – Present

- Worked within the global image management team as a flywheel developer. This included building different machine learning models for image text detection on opthamology images. As well as developing my skills in docker.
- Volunteer to lead a team of 6 data scientists in a data challenges team. The team develops and educates about data analytics, including running hackathons and education sessions. Currently running hour long session called AskRAAN where non-technical member of staff can come ask about different topics such as NLP or responsible AI.

Roche (Pharma)
Welwyn
Data science industrial placement *June 2021 – August 2022*

- Developed multiple proof of concept projects as starting points for different larger data science project. This was part of a data exploration scrum team. Projects included out of domain social media posts, using R to predict patient recruitment, ….. <- one more
- Using python built neural question generation using a Huggingface model into the roche natural language processing engine (a standardized set of commonly used NLP tools). It would generate question and answer from text. Developed this using CICD and pytest to test the application.
- Built a tool for automatically generating quiz material from standard operating procedure PDF to test understanding. I developed a flask backend for a vue.js frontend. It would take in PDFs and using the question generator I developed would return questions, answers and highlighted PDFs of where the questions were generated from.
- Worked as a developer in a synthetic data generation team. Looked at implementing different generative adversarial networks for tabular information generation.
- Outside of my day-to-day tasks I got involved in the larger analytics community. I help organise companywide analytics days and poster sessions. Helped develop and run data challenges/hackathons. Took part in larger hackathons (developed a tool using python steamlit to create a dashboard for explain ability of data between technical and non-technical member of staff). Help write a white paper on responsibility for AI in pharmaceuticals.

PROJECT EXPERIENCE

Engie (energy company) supply chain management app
Team project

- Team leader for a team of 5. Role included organising sprint meetings, delegation of tasks and interaction with the client.
- Developed an application in C# (Xamarin) to manage location and number of different assets for the energy company Engie. Each new piece of equipment would have a new QR code generated and emailed for equipment tagging.
- The application interfaced with google firebase NOSQL data storage for management of equipment and different user accounts.
- Secure login and storage for management of multiple users. Each of these users could access and mange the asset management system through QR codes or manually.

Core body temperature measuring through non-invasive methods
Imperial university work shadowing

- Spent time working with Professor Anthony Constantinides to develop a project based around monitoring internal body temperature through non-invasive methods.
- Learnt and used MATLAB to model changes in core body temperature from sensor attached to product.
- Used data analysis and signal processing in a biomedical capacity, along side writing an academic report and creating a detailed log of work. The product reduced the number of sensors required from 4 to 2 which would half costs.

X-ray pre-processing and classification for Knee osteoarthritis (OA) diagnosis
Bsc Research Project

- This was my final year 15000-word dissertation research project for my Bsci. For which I was awarded 78% for the whole project.
- I was provided with a dataset of over 400 knee x-ray images. From these images I was to develop deep learning methods for categorisation into either 1-5 categories of severity or a binary classifier of OA being present or not.
- I looked at different image processing methods for localising both the left and right knee to reduce information when developing my model. I implemented my method with python multi-threading which could process both left and right in 58 seconds with a 94% accuracy.
- Using my localised images, I looked at different transfer learning models and image manipulation techniques to build a model classifier. I implemented a large Xecption based model the with the knee images set a different zoom length. With my limited dataset I was still able to achieve 74% binary classification accuracy.

SKILLS & INTERESTS
Skills: Python | SQL | NOSQL | Linux | Git | Data Analytics | Deep learning (TensorFlow) | | Toastmasters public speaking (2021 dec -2022 July) | C# | Java

Interests and awards: | Stem rising star | Ultimate frisbee (university treasurer) | Squash | Guitar | open-source culture | AI responsibility (life 3.0 as inspiration) |