ONG WAI HONG (Imperial MEng, MSc Computer Science)

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SUMMARY

Polyglot Machine Learning Researcher and Engineer currently working on at the intersection of various disciplines including Machine Learning, Mathematical Optimization, Software Engineering, and High Performance Computing, for the Financial Industry.

EXPERIENCE

OakNorth Analytical Intelligence January 2021 - Present

Machine Learning Researcher / Engineer *London, Greater London, UK*

- Working on Machine Learning solutions that facilitate credit access for thousands of small-medium businesses.
- Researched, implemented and productionized a Multi-Modal Deep Learning model (Computer Vision+NLP) to perform Financial Document Analysis, accelerating an internal document ingestion process by up to 3x.
- Researched and implemented a novel Few-Shot Learning technique to allow a Document Entity Classification model to handle multiple, novel classification support sets, and improving existing classification accuracy by 2x.
- Researched and productionized Large Scale (Terabytes) Multi-modal/Generative Deep Learning for Time Series to nowcast private company financials.
- Tools most used: Pytorch(lightning), sklearn, Spark, Elastic stack, various AWS services (S3/EFS/Sagemaker)

Ava Unified Security January 2019 - December 2020

Machine Learning Engineer *London, Greater London, UK*

- Implementation of state-of-the-art deep learning techniques to improve the performance and expand the capabilities of computer vision models.
- Developed and maintained custom in-house machine learning library
- Tools and languages used: Pytorch, C++, CUDA, sklearn, GoLang

Cambridge Mechatronics Ltd August 2015 - August 2017

Physicist *Cambridge, Cambridgeshire, UK*

PROJECTS

Deep-LS(WIP)

- I am personally working on a novel Reinforcement Learning approach for Discrete Combinatorial Optimization, built around the Local Search Framework (ask me about it!).

FiML repos: https://github.com/whong92/recommender/ https://github.com/whong92/FiML

- Personal project to develop a highly flexible, adaptive recommendation platform for movies, allowing users to choose precisely what data goes into recommendations.

3d-dl url: https://github.com/921kiyo/3d-dl

- Synthetic dataset generation technique for efficient deep learning in image classfication, departmental prize and a publication: https://peerj.com/articles/cs-222/

EDUCATION

Imperial College London *2017-2018*

MSc Computer Science (Distinction - 85.7% Overall)

- *Thesis* : Asymptotic Queueing Theory Algorithms for Accelerating Computer Performance Modelling (project contributed to: http://jmt.sourceforge.net/, published: https://doi.org/10.1016/j.peva.2021.102241)
- *Projects*: Efficient Deep Learning for Image Classification of Fixed-Appearance Objects, Gaussian Processes for Hydrodynamic Data Modelling

Imperial College London *2011-2015*
MEng Mechanical Engineering (First Class Honours, Dean's List)

PUBLICATIONS

Facilitating Load-dependent Queueing Analysis through Factorization (*Elsevier Performance Evaluation*) : https://doi.org/10.1016/j.peva.2021.102241 *2019*
Synthetic Dataset Generation for Object to Model Deep Learning in Industrial Applications (*PeerJ Computer Science*) : https://peerj.com/articles/cs-222/ *2019*

AWARDS

Imperial College London - Corporate Partnership Programme Commendation *2018*
For excellence in the Software Engineering Group Project for MSc Computing. Value : £100

Imperial College London - Dean's List (Top 5% of cohort) *2012, 2013, 2014, 2015*

SELF-AUDITED COURSES

Cousera - Advanced Machine Learning Specialization (Intro to Deep Learning, Bayesian Methods for ML)
Coursera - Cloud Computing Specialization (Cloud Computing Concepts Part I and II)
UC Davis ATS - Theory of Computation (ECS 120)