ONG WAI HONG (Imperial MEng, MSc Computer Science)

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SUMMARY

Machine Learning 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 Engineer *London, Greater London, UK*

- Working on various projects to develop Machine Learning solutions that facilitate the access to credit for thousands of small-medium businesses, whilst monitoring the financial health and sustainability of said businesses.

Vaion Ltd January 2019 - December 2020

Machine Learning Engineer *London, Greater London, UK*

- Involved in the implementation of state-of-the-art deep learning techniques to improve the accuracy of a YOLO-based object detector,
- Lead a project to expand our model to perform end-to-end detection, visual attribute recognition, and re-identification in real-time video.
- Optimized inference runtime of trained models , developed and maintained custom in-house machine learning library.
- Tools used include Pytorch, Darknet (C++ deep learning framework), Nvidia's CUDNN and CUDA frameworks, as well as REST, gRPC and various other backend tools to serve deployed models.

BMLL technologies October 2018 - December 2018

Machine Learning Intern *London, Greater London, UK*

- Applied statistical regression techniques to market microstructure data to predict transaction costs of limit-orders.
- Successfully reproduced academic results, based on 6 month's worth of historical Level 4 limit-order data from several major European trading venues, as a proof-of-concept for a real system.
- PySpark, Pandas, Tensorflow, Jupyter-Notebooks

Cambridge Mechatronics Ltd August 2015 - August 2017

Control and Test Engineer *Cambridge, Cambridgeshire, UK*

- *Description:* Researcher / Engineer in the Physics Department, worked on projects involving mathematical modelling and development of control algorithms, software and firmware development and testing

PROJECTS

FiML live versison: https://fiml3.herokuapp.com/ repo: 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.
- Django, React, Nginx, Heroku and AWS. Machine Learning powered by RecLibWH (personal project)

RecLibWH url: https://github.com/whong92/recommender

- Personal project - python library written in Tensorflow and Keras for various machine learning techniques for recommender systems, primarily based on Matrix Factorization techniques.
- Interesting methods include: an adaptive variant of the 2008 Netflix prize winning solution, that can adapt to a users interaction with the model in real-time, Probabilistic Matrix Factorization with automatic hyperparameter tuning, and a Tensorflow implementation of the Alternating Least-Squares algorithm.

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

- · Developed a synthetic dataset generation technique for efficient deep learning in image classfication
  · Group work culminated in a 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://www.sigmetrics.org/mama/abstracts/Casale.pdf)
- *Projects*: Efficient Deep Learning for Image Classification of Fixed-Appearance Objects, Gaussian Processes for Hydrodynamic Data Modelling

Relevant Modules: Probabilistic Inference, Logic and AI, Logic-Based Learning, Maths for Machine Learning, OOP, Operating Systems, Formal Systems Verification, Simulation and Modelling

Imperial College London *2011-2015*
MEng Mechanical Engineering (First Class Honours, Dean's List)
Thesis: High Resolution Numerical Methods for Partial Differential Equations

PUBLICATIONS

Novel Solutions for Closed Queueing Networks with Load Dependent Stations - ACM SIGMETRICS Proceedings of MAMA workshop: https://www.sigmetrics.org/mama/abstracts/Casale.pdf *2019*
Synthetic dataset generation for object to model deep learning in industrial applications - PeerJ Computer Science: https://peerj.com/articles/cs-222/ *2019*

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)

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*