Ho Chung Leon Law

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EDUCATION

UNIVERSITY OF OXFORD | PHD IN STATISTICS AND MACHINE LEARNING
Expected 2015 – 2019 | Department of Statistics, Oxford, UK

- DPhil Thesis: Testing and Learning on distributional and group inputs, in the area of machine learning
- Supervised by Prof. Dino Sejdinovic and Dr. Christopher Yau
- Research interests include Gaussian process, transfer learning, deep learning and Bayesian optimisation

UNIVERSITY OF CAMBRIDGE | MASTERS, PART III: MATHEMATICAL STATISTICS
Oct 2014 – Aug 2015 | Faculty of Mathematics, Cambridge, UK

- Distinction in all courses (Top 5%), with dissertation on statistical fMRI neuroimaging
- Courses include biostatistics, machine learning, modern statistical methods and applied statistics

IMPERIAL COLLEGE LONDON | BACHELORS OF MATHEMATICS
Oct 2011 – Aug 2014 | Department of Mathematics, London, UK

- 1st Class (Top 5%), primarily focused on statistical methods, projects in credit risk and leukaemia prediction models

INDUSTRY EXPERIENCE

CITADEL SECURITIES | QUANTITATIVE RESEARCH INTERN
Feb 2019 – April 2019 | Index arbitrage, Hong Kong
Project: Study on market data characteristics for alpha development

- Developed algorithms to extract information from market data
- Algorithms were successful in providing valuable insights for alpha research
- Other projects include factor return analysis and building various APIs for future usage

FINANCIAL SERVICES COMPANY | CONSULTANT
Oct 2018 – Jan 2019 | United States
Project: Data analysis and modelling using alternative data sources

- Part-time consultancy project with a top US hedgefund (anonymous)

TENCENT AI LAB | RESEARCH INTERN
Jul 2018 – Oct 2018 | Shenzhen, China
Project: Construct new methodology for Bayesian optimisation (BO), used for automatic hyperparameter selection (AutoML)

- As part of the Oxford-Tencent Collaboration on Large Scale Machine Learning
- Construct a meta-learning framework to allow few-shot BO by transferring from previously seen task
- Accepted into meta-learning workshop, NeurIPS 2018

INSTITUTE OF STATISTICAL MATHEMATICS | RESEARCH INTERN
Feb 2018 – Jun 2018 | Toyko, Japan
Project: Construct a ML model for predicting malaria incidences, given real life data with more than 1 million points

- A new Bayesian framework using Gaussian process for aggregated labels was constructed
- For scalability, variational methods with multiprocessing and GPUs was used
- Methodology published in the NeurIPS main conference 2018

AMBER AI | QUANTITATIVE RESEARCH INTERN
Dec 2017 – Jan 2018 | Hong Kong
Project: Construct a 1-step, end-to-end stock portfolio machine learning model

- A neural network with a particular structure in TensorFlow was constructed for stocks data
- The model can perform long and short strategy, optimising the Sharpe ratio directly

PRINTASTIC | DATA SCIENCE INTERN
Jul 2016 – Sept 2016 | London, UK
Project: Predict user's intent to purchase over time using App data, to provide targeted interventions

- Data was cleaned and used to build a time sequential model using LSTM with label being the intent to purchase
- Model successfully captured signal from the data, and customers were divided into different intent categories

STYLOKO | NLP Data Science Intern
Jun 2016 - Jul 2016 | London, UK
Project: Cluster fashion words with similar meaning, to measure similarity of fashion item descriptions

- Extracted and preprocessed items' text descriptions using NLP techniques, before using Word2vec and K-means clustering to identify words with similar meaning
- Algorithm successfully identified categories of occasion, colours, countries, misspellings etc

PUBLICATIONS

VARIATIONAL LEARNING ON AGGREGATE OUTPUTS WITH GAUSSIAN PROCESSES | NeurIPS 2018
H. Law, D. Sejdinovic , E. Cameron , T. Lucas , S. Flaxman , K. Battle , K. Fukumizu | Montréal, Canada

- Constructed a framework that is able to learn from an aggregation of outputs using Gaussian Process.

BAYESIAN APPROACHES TO DISTRIBUTION REGRESSION | AISTATS 2018
H. Law, D. Sutherland, D. Sejdinovic, S. Flaxman | Canary Islands, Spain

- Constructed a deep Bayesian distribution regression formalism that accounts for bag size uncertainty.
- Oral presentation at NeurIPS 2017 workshop

TESTING AND LEARNING ON DISTRIBUTIONS WITH SYMMETRIC NOISE INVARIANCE | NeurIPS 2017
H. Law, C. Yau, D. Sejdinovic | Long Beach, US

- Constructed invariant features of distributions, leading to testing and learning algorithms robust to the impairment of the input distributions with symmetric additive noise.

SELECTED EXPERIENCES

CONFERENCE REVIEWER FOR NEURIPS, NEUCOM, AISTATS
2019 | Japan, and US

TEACHING ADVANCED TOPICS IN STATISTICAL MACHINE LEARNING
Jan 2017 - Jun 2019 | Oxford, UK

PRESIDENT OF THE OXFORD HONG KONG POSTGRADUATE SOCIETY
Oct 2017 - Oct 2018 | Oxford, UK

AMAZON-OXWASP BERLIN MACHINE LEARNING WORKSHOP
Apr 2017 | Berlin, Germany

AWARDS

ESPRC AND MRC STUDENTSHIP FOR DPHIL IN STATISTICS AND MACHINE LEARNING
2015 - 2019 | Oxford, UK

MAGDALENE COLLEGE SCHOLARSHIP
Aug 2015 | Cambridge, UK

MACHINE LEARNING SCHOOL TRAVEL GRANT
Sep 2015 | Kyoto, Japan

NEURIPS 2017, 2018 TRAVEL AWARD
Dec 2017, 2018 | US

WALTON PRIZE
Aug 2015 | Cambridge, UK

G-RESEARCH PRIZE
Aug 2014 | London, UK

LANGUAGES / SOFTWARE

PROGRAMMING
Language (in order of experience)
Python • R • C++
Libraries
TensorFlow

SPOKEN & WRITTEN
Native
English • Cantonese
Business
Mandarin

SOFTWARE
Available at https://github.com/hcllaw
VBAgg (NeurIPS 2018 paper)
BDR (AISTATS 2018 paper)
Phase Learn (NeurIPS 2017 paper)
Private Tst