Ho Chung Leon Law

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EDUCATION

UNIVERSITY OF OXFORD | PhD in Statistical Science (OxWaSP)
Expected 2015 – 2019 | St Peter's College, Oxford, UK

- PhD Thesis title: Model Based Kernel Approaches, in the area of machine learning (ML)
- Supervised by Prof. Dino Sejdinovic and Dr. Christopher Yau
- Research interest include kernel methods, gaussian process and deep learning

UNIVERSITY OF CAMBRIDGE | Masters, Part III: Mathematical Statistics
Oct 2014 – Aug 2015 | Magdalene College, Cambridge, UK

- Distinction (Top 5%)
- Statistical fMRI Neuroimaging Dissertation (Distinction)
- Courses include machine learning, modern statistical methods, stochastic networks and applied statistics

IMPERIAL COLLEGE LONDON | Bachelors of Mathematics
Oct 2011 – Aug 2014 | London, UK

- 1st Class (Top 5%), primarily focused on statistical methods during 3rd year
- Projects in credit risk models and SVM leukaemia prediction models

INDUSTRY EXPERIENCE

TENCENT AI LAB | Research Intern
July 2018 – Oct 2018 | Shenzhen, China
Project: Construct new methodology for Bayesian optimisation, used for automatic hyperparameter choosing (AutoML)

INSTITUTE OF STATISTICAL MATHEMATICS | Research Intern
Feb 2018 – June 2018 | Toyko, Japan
Project: Construct a ML model for predicting malaria incidences, given real 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 GPU was used
- The project was under the supervision of Prof. Kenji Fukumizu, it is currently a NIPS submission

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
- The model was tuned and tested on 2016-2018, with Sharpe ratio consistently above 1.5
- API was setup for model adjustments, different trading strategies, and other loss function

PRINTASTIC | Data Science Intern
June 2016 – Sept 2016 | London, UK
Project: Prediction of user's intent for purchase over time using App data, to provide targeted interventions

- Smart photobook application records customer's actions and information, with the corresponding timestamps
- Data was cleaned and was used to build a time sequential model using LSTM with label being the intent to purchase
- Model successfully capture signal from the data, and customers were divided into different intent categories
- Results and findings are communicated and API (html) was built for implementation and analysis

STYLOKO | NLP Data Science Intern
June 2016 | London, UK
Project: Cluster fashion words with similar meaning, to construct a similarity between fashion text descriptions

- Fashion item's text description was extracted and preprocessed using standard NLP techniques, before using Word2vec and K-means clustering to identify words with similar meaning
- Algorithm was successful in finding categories of occasion, colours, countries, misspellings etc

PUBLICATIONS

BAYESIAN APPROACHES TO DISTRIBUTION REGRESSION | AISTATS 2018

H. Law, D. Sutherland, D. Sejdinovic, S. Flaxman | Canary Islands, Spain

- Construct a Bayesian distribution regression formalism that accounts for bag size uncertainty, improving the robustness and performance of existing models. The models propose can be framed in a neural network-style, and we demonstrate its performance on the IMDb-WIKI image dataset for celebrity age classification.
- Oral presentation at NIPS 2017 workshop

TESTING AND LEARNING ON DISTRIBUTIONS WITH SYMMETRIC NOISE INVARIANCE | NIPS 2017

H. Law, C. Yau, D. Sejdinovic | Long Beach, US

- Construct invariant features of distributions, leading to testing and learning algorithms robust to the impairment of the input distributions with symmetric additive noise. These features lend themselves to a straight forward neural network approach, and can also be easily implemented in many algorithms.

SELECTED EXPERIENCES

PRESIDENT OF OXFORD HONG KONG POSTGRADUATE SOCIETY

2017 - 2018 | Oxford, UK

- Raised funds and organised a research symposium, where postgraduates from different backgrounds present their research in laymen terms

SAMSUNG INDUSTRIAL COLLABORATION WITH ALAN TURING INSTITUTE

May 2017 | London, UK

- One week collaboration with other researchers to cluster Samsung mobile game users and predict cluster transition

AMAZON-OXWASP BERLIN MACHINE LEARNING WORKSHOP

April 2017 | Berlin, Germany

- Attend one week advanced training course on topics in statistical machine learning and computing for big-data analysis (AWS), designed by senior academics and Amazon researchers

TEACHING: ADVANCED TOPICS IN STATISTICAL MACHINE LEARNING

Jan 2017 - April 2017 | London, UK

- Class tutor for machine learning course for third year undergraduates

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

Sept 2015 | Kyoto, Japan

NIPS TRAVEL AWARD

Dec 2017 | Long Beach, US

WALTON PRIZE

Aug 2015 | Cambridge, UK

G-RESEARCH PRIZE

Aug 2014 | London, UK

LANGUAGES / SOFTWARE

PROGRAMMING

Language (in order of experience)
Python • R • MATLAB • Lua • C++
Libraries
TensorFlow • Torch

SPOKEN & WRITTEN

Native
English • Cantonese
Business
Mandarin • Japanese

SOFTWARE

Available at
https://github.com/hcllaw
VBAgg (NIPS submission)
BDR (AISTATS 2018 paper)
Phase Learn (NIPS 2017 paper)