

Lim Ek Hong

WORK EXPERIENCE

NUS – Institute of Operations Research and Analytics (IORA)

PhD Candidate

Aug 17 – Present

- Research interests are in the areas of Machine Learning, Causal Inference modelling and their Intersections.

NCS Pte Ltd

Senior Data Scientist, Data Analytics Department

Oct 15 – Aug 17

- Seconded to DBS to assist the development of data analytics capabilities for the institutional banking segment of DBS.
 - i. Worked on the full spectrum of a Factoring Risk Monitoring Project, including creating hive queries, QlikView data modelling and design, R scripting and integrating these solutions for production.
 - ii. Assisted and advised on ad-hoc machine learning, visualization and automation projects. Prominent work involved
 - writing a customized EM clustering algorithm to sidestep problems faced with conventional algorithms
 - helping the team to carve out an analytics project roadmap.
- Engaged CAAS's Aeronautical Telecommunications & Engineering Division (AT&E) to identify advanced analytics opportunities
 - i. Worked closely with the Surveillance Projects Section to develop a big data anomaly detection software
 - Utilized PySpark to process transponder data to detect anomalous flight data transmission
 - Constructed quality metrics and leveraged on Tableau (Reader) to provide low cost and user accessible visualizations
 - ii. Conducted pre-sales activities to understand the customer's intent and vision
 - Conducted presentations, workshops and active engagements to inform the customer on the Advanced Analytics (AA) landscape, helping them to align their business problems with AA solutions
 - Efforts helped to pave open a project opportunity to enhance CAAS's transponder processing and reporting capabilities
- Other key Activities:
 - i. Rapidly developed a Topic Modelling Deep Learning library to increase value proposition for a project opportunity
 - ii. Developed an integrated R and C++ "*Mixed Distribution Mixture Model*" clustering library for the team
 - iii. Developed customized fraud detection algorithms for NCS procurement fraud analytics product suite
 - iv. Actively participated in presales and tender activities, helping to understand customer's objectives, assess their current capabilities and propose customized advanced analytics strategies to bridge the gaps.

Accounting and Corporate Regulatory Authority

Product Development (Manager), Information Resource Department

Jun 13 – Oct 15

- Identify opportunities to conduct statistical research and analysis to aid the organization in its policy and decision making process
 - i. Provided insights and recommendations on policy making and operational process optimization to the Compliance Division by merging, analysing and forecasting huge complicated datasets.
 - ii. Collaborated with the enforcement department to leverage on analytics and visualization tools to raise Singapore's corporate governance standards.
 - iii. Enhanced the product development process by complementing it with market segmentation theory to sieve out customer segments and analysing their needs. (Won 2nd prize in an internal competition for the project)
 - iv. Coded a range of market segmentation algorithms using new machine learning techniques and models. Fully establishing an array of clustering tools offering a choice of accuracy or speed.
 - v. Completed a working paper on: "Customer Segmentation using Dirichlet Process Mixture Models"
- Strategize and carve out new avenues to proliferate and enhance the use of Singapore's business data to reduce information asymmetry and facilitate the business community's inherent self-governance mechanisms.
 - i. Conceptualized and initiated plans to leverage on cost effective Business Intelligence tools to increase the community's awareness of ACRA's rich datasets, understand its complexities and appreciate its economic value.
 - ii. Formulated novel business strategies to boost revenue for cost recovery and future system enhancements.
- Other notable experience and achievements:
 - i. Involved in the full process of design, review and UAT of ACRA's revamped IT systems. These includes ACRA's intranet, public modules, BizFinx and QlikView Business Intelligence interfaces.
 - ii. Worked and engaged various HODs and colleagues to consult and advise on the adoption of analytic tools.

Dyson Operations Pte Ltd

Graduate Mechanical Engineer Analyst, Research Design and Development Department

Nov 11 – Jul 12

- Advised and develop engineering solutions for the design teams to solve their technical difficulties.
- Proud to be part of a 2 man team that successfully identified and resolved numerous persistent reliability issues that jeopardized the launch of a new product (Dyson Airblade Tap Hand Dryer).
- Developed various VBA programs to help increase productivity and streamline operational work.
- Initiated a project to develop a bearing failure and motor deflection detection algorithm to increase root cause failure identification efficiency.

EDUCATION

Professional Certifications and Diploma

- Specialist Diploma in Business Analytics (Temasek Poly) Aug 2015
- Passed CFA Level II Jun 2015

National University of Singapore

- Masters of Science (Statistics) – GPA 4.45/5 Aug 12 – Jun 13

University of Western Australia (Crawley Campus)

- Bachelors of Engineering (1st Class Hons) – GPA 6.69/7 Jul 09 – Sep 11
- High Distinction for Thesis on applications of Control Theory

DATA ANALYTIC SKILLS AND WORK

Nonparametric Bayesian Machine Learning, Deep Learning for Computer Vision and NLP, Web Scraping

SOFTWARE SKILLS

R, C++, Python, Theano, Spark, Hadoop, SQL, NoSQL, Matlab, QlikView, VBA, SAS, SAS Enterprise Miner, LaTeX, MS Office, C, Minitab, SPSS

ORGANIZATION AND COMMITTEE EXPERIENCE

MCCY 2014 – 2017

- Volunteer Probation Officer, befriending probationers to help steer them back to the right track in life

NUS Graduate Students Society Aug 12 – Jun 13

- Organized Recruitment Talks, Career Seminars and other relevant events for the Careers Committee

Mathematics Tuition (Pro Bono) Aug 12 – Jun 13

- Successfully overhauled my student's grades and enabled him to enter the express stream of his secondary education

University of Western Australia Be With Buddha Society Jan 10 – Dec 11

- Participated and assisted in the organization of weekly congregations and various fund raising activities.