

Zhaoxiang (Simon) Cai

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CAREER PROFILE

Innovative researcher and engineer specialised in deep learning with experience in both academia and industry. Worked on extremely large-scale systems while working for Goldman Sachs and world-leading international research projects during PhD. Always passionate about taking cutting-edge research outcome into usable products, especially in healthcare industry. Enjoy playing the piano, skiing and badminton in spare time.

EXPERIENCE

The University of Sydney / Children's Medical Research Institute

Sydney, Australia

World-leading Research Institute

PhD Candidate

Mar 2020 – current

Large-Scale and Pan-Cancer Proteogenomic Analyses with Machine Learning

- In collaboration with the Wellcome Sanger Institute on analysing drug response and CRISPR-Cas9 screening data

Achievements:

- Designed a novel deep learning architecture to predict cancer vulnerabilities using proteomics data
- Identified potential biomarkers for cancer vulnerabilities
- The 1st prize of University of Sydney Innovation Challenge 2020 (vaccine critical tweets identification)

Data Scientist/Bioinformatician

Jan 2019 – Mar 2020

- Built pipelines using existing models for single-cell RNA-seq analysis in mouse developmental biology
- Built deep learning models for live-cell imaging data analysis

Achievements:

- The 1st prize of University of Sydney Innovation Challenge 2019 (ocular disease image classification) - \$7,500
- The 3rd prize of ODIR-2019 (international computer vision competition) - \$20,000 (approx.)

Tools Used: Python, R, PyTorch, PyCharm, Jupyter, Linux, etc.

SEEK

Melbourne, Australia

Australia's Top Employment, Career and Recruitment Site

Data Scientist Internship

Aug 2018 – Sep 2018

- Built a machine learning model to improve the engaging power of weekly roundup recommendation emails
- Worked on feature engineering to generate informational features for the model to be effective

Achievements:

- Designed a new gradient boosting model with over 1800 features
- Potential Click-Through-Rate improvement of 12.8% with the new model

Tools Used: Jupyter notebook, Presto, SQL, Python, Linux, etc.

Goldman Sachs

Melbourne, Australia

Leading Investment Bank in the World

Graduate Analyst Programmer

Nov 2014 – Jan 2018

- Communicated with business stakeholders and liaised regarding project scope with ongoing updates
- Designed/developed/tested/deployed system solutions specialised in Goldman Sachs Electronic Trading (GSET) business flow
- Provided production support and maintained the health of testing environment

Achievements:

- Delivered Shenzhen-Hong Kong stock connect project with zero system issues in a very aggressive 4-month timeline. The project won the annual Federation Award 2016
- Established India GSET clearing clients business flow which attracted over 20 potential institutional clients
- Completed 10+ small to medium projects yearly

- Leadership and problem-solving skills were well recognized by both technology and securities trading teams
- Was the captain of GS Squash Club

Tools Used: SQL, Python, C++, Linux, Perl, HTML, JIRA, Confluence, MS Office Suite etc.

Monash University

Melbourne, Australia

Australian Group of Eight University

Tutor for Algorithms and Data Structure

Jul 2013 – Nov 2013

- Prepared teaching materials for tutorial classes
- Delivered course materials in tutorial classes, to a group of 15 students
- Answered questions in programming labs and tutorials and assessed students' assignments

Achievements:

- Delivered clear explanations to students and received positive feedback from students
- Motivated students in learning the subject by in-depth understanding of the subject

EDUCATION

UNIVERSITY OF SYDNEY

Sydney, Australia

Doctor of Philosophy

Mar 2020 – current

- Large-Scale and Pan-Cancer Proteogenomic Analyses with Machine Learning

UNIVERSITY OF MELBOURNE - MELBOURNE BUSINESS SCHOOL

Melbourne, Australia

Master of Business Analytics

Jan 2018 – Dec 2018

- First Class Honours
- KPMG-MBS Data Challenge - 1st Prize Winner for Natural Language Processing
- MBS scholarship in Business Analytics, 2018
- Co-President of Business Analytics Club
- Class Representative in Student Representative Council

MONASH UNIVERSITY

Melbourne, Australia

Bachelor of Computer Science (Honours)

Jan 2011 – Jul 2014

- First Class Honours
- Awards: Dux of Bachelor of Computer Science (overall highest ranking), Bellamy Awards (highest ranking for each year), International Merit Scholarship
- Publication: HetFHMM: A Novel Approach to Infer Tumor Heterogeneity Using Factorial Hidden Markov Models

ADDITIONAL

- Visa Status: Australian permanent residence visa (subclass 189)
- Languages: English (IELTS 8.0), Chinese
- Interests: Travel, Piano, Badminton, Machine Learning, Game Development