

Liangde Li

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Education

University of California, San Diego (UCSD) Sep 2020 – June 2022
M.S. in Computer Science

The University of New South Wales (UNSW), at Sydney, Australia
July 2015 – July 2020

B.S. in Computer Science
B.Eng. (Hons) in Mechatronic Engineering
(First Class Honours)

Current Projects

Cerebro Jan 2021 - Present

- Working for this umbrella project, which is a model selection system.
- Introduced *Intermittent Human-in-the-loop* paradigm in model selection to utilise human intuition, while still achieved high throughput. Extended Cerebro system with REST APIs and a UI implemented in Dash python framework. Resulted as a Demo paper at VLDB 2021.
- Collaborating with a team from UCSD Public Health, customized Cerobro for their use case of training and inference of a CNN model on data from human worn devices.

Benchmark of Genomic Analysis Tools June 2021 - Present

Working on benchmark of PLINK, Hail and Sgkit, on some common GWAS methods, including Allele Frequency, HWE, LD Prune, PCA and OLS. Testing in three axes of computation power, data capacity and method parameters.

Past Project

rUNSWift Robot Soccer Team March 2017 - May 2020

Achievement:

In 2018 and 2019, represented UNSW attended RoboCup (a robotics competitions worldwide) in Montreal, Canada in June 2018 and Sydney in July 2019.

2019: The third place in the Standard Platform League Major Competition.

2018: Championship of Mixed Team Competition. Made it to the quarter final in the Standard Platform League Major Competition.

Main contributions to the team:

- a) Converted key Vision modules from sequential to parallel on multicore CPU robots.
- b) Implemented c++ efficient version Adaptive Thresholding algorithm to handle natural light.
- c) Developed playground's Curve, Corner-Intersection, T-Junction and Penalty-Cross detector.
- d) Research and developed algorithms to help Kalman Filter getting rid of noises from vision to make robots localise more accurate.
- e) Mixed Team AI agent behaviours.
- f) Fixed getting up action to suit for different surfaces of playground.

Course Projects

In 2018, semester 2, took **Advanced Operating System (AOS)**, the most challenging, highest prerequisite course in UNSW with only 30 top students enrolled. Developed a Simple Operating System (SOS) in C language based on microkernel seL4 in pairs. A deeper understand of operating system has been gained from the project.

In 2021, Winter, Deep Learning course. Video summarization project led to a paper.

In 2020, Fall, recommender system projects in Recommender System and Web Mining course.

Others.

Network routing algorithm simulation.

Network applications in python, which gave basic knowledge and usage of web app framework (Django, Flask) also HTML.

Publication

Intermittent Human-in-the-Loop Model Selection using Cerebro: A Demonstration

Liangde Li, Supun Nakandala, and Arun Kumar

VLDB 2021 Demo

Video Summarization Guided by Local and Global Temporal Cues

Qinghao Ye, **Liangde Li**, Chuanqi Yan, Weiqing Cao, Garrison W. Cottrell

rUNSWift Team Report 2019

Jayen Ashar, Kenji Brameld, Ethan R. Jones, Tripta Kaur, **Liangde Li**, Wentao Lu, Maurice Pagnucco, Claude Sammut, Qingbin Sheh, Peter Schmidt, Thomas Wells, Addo Wondo, Kelvin Yang

RoboCup SPL 2018 rUNSWift Team Paper

Kenji Brameld, Fraser Hamersley, Ethan Jones, Tripta Kaur, **Liangde Li**, Wentao Lu, Maurice Pagnucco, Claude Sammut, Qingbin Sheh, Peter Schmidt, Timothy Wiley, Addo Wondo, Kelvin Yang

Other

- Skills of programming language: c, c++, Python, MATLAB
- Programming language with some experience: Java, Go, PHP, Erlang, MIPS, AVR