

Larry Law

Final Year Computer Science Undergraduate, National University of Singapore
Natural Language Processing Research Intern, DSO National Laboratories



RESEARCH INTEREST

Natural Language Processing and Machine Learning

EDUCATION

- **National University of Singapore** *Aug. 2018 – May. 2022 (expected)*
Bachelor of Computing in Computer Science; CAP: 4.45/5
- **Raffles Institution** *Jan. 2010 - Dec. 2015*
GCE 'A' Levels; University Admission Score: 87.5/90

HONOURS AND AWARDS

- Dean's List *Jan. 2021 - May. 2021*
- Invited to the Turing research programme by A/P Bryan Low and Professor David Hsu *Jan. 2021*
- Placed on the University Scholar's Programme (USP) Honour Roll *Aug. 2019 - May. 2020*

WORK EXPERIENCE

- **DSO National Laboratories** *May 2021 - Present*
NLP Research Intern, supervised by Dr Chieu and Prof Lee Wee Sun
 - Proposed **rationalized co-training: a variant of co-training that encourages agreement between the rationales of the classifiers' predictions.**
 - Experiments on two datasets showed that rationalized co-training **reduced the error rates** of the partially and fully supervised models **by 32.3%**. This reduction **outperformed that of vanilla co-training by 8.51%**.
 - Implemented hierarchical attention networks using **PyTorch** and **HuggingFace**.
- **National University of Singapore** *May 2020 - May 2021*
Research Assistant, supervised by A/P Bryan Low
 - Proposed to **integrate non-myopic bayesian optimisation with network morphism for neural architecture search** (*Thesis here*).
 - Implemented network morphism research paper using **PyTorch**. Neural networks augmented with network morphism **converged 67% faster** than vanilla networks.

PROJECTS

- **Automatic Github Issue Labeller** *Mar 2021 - May 2021*
CS4248: Natural Language Processing
 - Published a Github Action that uses **NLP to automatically label github issues** (*Demo here*).
 - **Fine-tuned BERT** with scraped github issues. Deployed model using **Docker**.
 - Labeller is **used by the WING-NUS research group**, led by A/P Min-Yen Kan.
- **DuckieNet** *Aug 2020 - Nov 2020*
CS2309: Research Methodology
 - Proposed **DuckieNet**, a model which **integrates planning with Semantic Segmentation for Goal-Directed Autonomous Navigation in Crowded Environments**. (*Demo here*)
 - DuckietNet cleared **2/6 maps** and **21 obstacles more** than our baseline without semantic segmentation.

PROGRAMMING SKILLS

- **Languages:** Python, Javascript, Java, Bash
- **Technologies:** PyTorch/TensorFlow/Keras, HuggingFace/AllenNLP, Scikit-Learn/pandas/numpy, Docker, React

RELEVANT COURSEWORK

- **Computer Science:** NLP, Information Retrieval, Deep Learning, Machine Learning, Artificial Intelligence
- **Mathematics:** Discrete Mathematics, Calculus, Linear Algebra I & II, Probability, Statistics, Mathematical Analysis I