Larry Law

Final Year Computer Science Undergraduate, National University of Singapore

Research Interest

Natural Language Processing and Machine Learning

Education

- **National University of Singapore** *Aug. 2018 – May. 2022*
  Bachelor of Computing in Computer Science; First Class Honours

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 - May 2022*
  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%**.
  - **Short paper submitted for review for NAACL 2022.** *(Paper here)*
  - 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