Larry **Law**

Natural Language Processing · Machine Learning

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Education

National University of Singapore — *Singapore*

B.S. in Computer Science & Minor in Mathematics — *Aug. 2018 - May 2022*

- Enrolled in the **University Scholar's Programme**, a multidisciplinary academic programme wherein I learn to write and think critically.
- Enrolled in the **Turing Programme**, an invitation-only NUS research programme. **Recommended by A/P Bryan Low and Professor Hsu.**
- Placed on the **Dean's List** for AY2019/2021, Sem 2.
- Placed on the **USP Honour Roll** for AY2019/2020 based on academic achievements and contributions to the USP community.

Experience

Information Exploitation Lab (IEL) in DSO National Laboratories — *Singapore*

Incoming Research Intern — *May 2021 - Jul 2021*

- Will be researching on **understanding multi-lingual embedding** under **Dr Chieu Hai Leong** and **Lim Jing.**

Multi-Agent Planning, Learning, and Coordination Group (MapleCG) — *Singapore*

Research Student — *May 2020 - May 2021*

- Proposed a **planning framework that integrates Network Morphism (NM) and non-myopic Bayesian Optimisation (BO)**: non-myopic BO accounts for the morphing of architectures which perform well in the long run while NM provides non-myopic BO with the cheaper objective function by recycling weights. At point of writing, **our work is the first to integrate both concepts**.
- Showed that **Bayesian Sequential Decision Problem (B-SDP) naturally ties together NM and non-myopic BO** because NM serves as the transitions between states in B-SDP while B-SDP is a problem formulation common in non-myopic BO.
- Supervised by **A/P Bryan Low**. **Module Grade: A+.** Links: [Report] [Slides]

Projects

Automatic Github Issue Labeller Action — *Singapore*

Team Lead — *Mar 2021 - Present*

- Built a **NLP model that automatically labels github issues**, which uses transfer learning on BERT under the hood.
- **Outperforms traditional regex approaches** in F1 score (0.8723 vs 0.3634) and accuracy (0.8752 vs 0.5267) on our test set.
- **Published as a Github Action in the marketplace**; at time of writing, it's the **only NLP-based labeller in the marketplace**.
- Supervised by **A/P Kan Min-Yen** as part of *CS4248: Natural Language Processing*. **Module grade: A.** Links: [Marketplace] [Poster] [Report]

DuckieNet — *Singapore*

Research Student — *Aug 2020 - Nov 2020*

- Proposed **DuckieNet**, a model which **integrates planning with Semantic Segmentation for Goal-Directed Autonomous Navigation in Crowded Environments**. Segemented images can reduce the complexity of images to simple class labels, thus allowing our model to better differentiate obstacles from path.
- **Demonstrated efficacy and feasibility** by testing DuckieNet **on the simulated self-driving car environment, DuckieTown.**
- Supervised by **Professor David Hsu** as part of *CS2309: Research Methodology*. **Module grade: A+.** Links: [Report] [Demo] [Code]

Basically England! — *Singapore*

Team Lead — *Aug 2020 - Nov 2020*

- Built a **NLP model that detects when our professor uses filler words**, which uses a simple Bi-LSTM architecture under the hood.
- Supervised by **A/P Bryan Low** as part of *CS3244: Machine Learning*. **Project earned full marks** (median: 37/45). Links: [Report]

Honours

2020	**Recommended to be a USP Writing Assistant** by **A/P Barbara Therese Ryan**.
2010-2015	**Team Captain** of the Raffles Institution Cross Country Team. **Improved from being a reserve in 2010, 2011, 2012 to National 2nd in the 1500m in 2015.**

Technical Skills

Languages	Python, Bash, Java, Javascript
Frameworks & Libraries	PyTorch/TensorFlow/Keras, Scikit-Learn/ pandas/numpy, Docker