

LI-YIN(LILY) YOUNG

Email: email@email.com | Personal Website: <https://liyo6397.github.io/react-gh-pages/> | GitHub: <https://github.com/liyo6397>

ENGINEERING SKILLS

- **Languages:** Python, MySQL, C++/C
- **Deep Learning framework:** tensorflow, Keras, skit-learn, numpy, pandas
- **Other Skill:** Docker, Azure, Parallel Computing(multiprocess, MPI, OpenMP)

WORK EXPERIENCE

Full Stack Developer

Main Street Exchange

Jun.2016-Aug.2018

tools: SQL, php, javascript

- Maintained 5 onsite databases and increased its admin effectiveness by 20%.
- Integrated database functionality into websites for automating document and capitalization table management.

Machine Learning Engineer

TopicTechnology

Jan. 2016-May. 2016

tools: python, nltk

- Built topic model to identify the market and competitive landscape with up to 95% fidelity.
- Filtered and cleaned unstructured company and market information, improved the classification accuracy 30%.

Machine Learning Developer Summer Intern

Millennium Engineering & Integration

Summer 2014

tools: python, nltk

- Apply support vector machine(svm) on time series data to forecast customers' daily purchasing temptations.
- Optimized the code and reduce the data retrieval time by 40%.

PUBLICATION

Li-Yin Young, **The Effect of Moderator bots on Abusive Language Use** *Proceedings of the International Conference on Pattern Recognition and Artificial Intelligence*. ACM, New York, NY, USA. 2018

PROJECTS

Using Wasserstein GAN to approximate stochastic process

Jan. 2020-Present

Advisor: Professor Yu-Jui Huang

tools: python, tensorflow, scipy, matplotlib

- Proposed the machine learning approach based on generative adversarial Networks(WGANs) to predict the pattenen of stochastic process such as geometric brownian motion and Ornstein-Uhlenbeck(OU) process.
- Encoded the stochastic process by using deep Wasserstein generative adversarial Networks(WGANs).
- Dropped down by RSME 30% compaired to current WGAN.
- By optimized two neural networks synchronically, I sped up the algorithm by 40%.

A deep learning approach partial differential equations

July. 2018-Present

Advisor: Professor. Xiaochuan Cai and Professor. Daniel Appelo

tools: python, tensorflow, scipy, matplotlib

- Developed deep learning algorithm to leverage the governing equations by extracting patterns from high-dimensional data generated.
- Applied deep learning approach to find the solutions of partial differential equation and non-linear dynamics problems.
- Construct data-efficient approach using machine learning algorithm for approximating the solutions of partial differential equation with up to 95%.
- By pretraining the network of 10% of training data, I sped up 20% of to reach a desired level of accuracy.

Advisor: Professor Yu-Jui Huang

tools: python, matplotlib

- Generalized the algorithm that allowing Stochastic differential equation (SDE) to adjust parameters based on Markovian process in high dimensions.
- Formulated daily stock price as Markov process under asymmetric Laplace distribution improve the accuracy of 30%.
- Reducing 50% time to process data by using Autoregressive hidden Markov model to estimate stock price.

EDUCATION

University of Colorado Boulder, Boulder, CO, U.S.A.

Master of Science, Applied Math, August 2018- May 2020

University of Colorado Boulder, Boulder, CO, U.S.A.

Master of Science, Computer Science, Augst 2013- June 2015

Chang Gung University, Taoyuan, Taiwan

Bachelors of Science, Information Management, September 2008- June 2012