

# LI-YIN(LILY) YOUNG

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

## 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

## WORK EXPERIENCE

### Web Developer

*Main Street Exchange*

*Jun.2016-Aug.2018*

- Developing agile website for enterprise commerce applications to processing warehoused data
- Maintaining the query performance in database

### Machine Learning Engineer

*TopicTechnology*

*Jan. 2016-May. 2016*

- Implementing text mining to analyze unstructured company and market information.
- Building topic model to help customer understand the market and competitive landscape.

### Machine Learning Developer Summer Intern

*Millennium Engineering & Integration*

*Summer 2014*

- Use support vector machine(svm) to exploring the temptation of customers.
- Build autoregressive model to track the online data.

## 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

## ENGINEERING SKILLS

- **Languages:** Python, SQL, C++/C
- **Deep Learning framework:** tensorflow, Keras, skit-learn
- **Parallel Computing:** OpenMP, MPI

## PROJECTS

### Using Wasserstein GAN to approximate stochastic process

**Jan. 2020-Present**

Develop probabilities to model and predict randomness in real-life phenomena.

- Proposed the machine learning approach based on generative adversarial Networks(GANs) to predict the pattenen of stochastic process such as geometric brownian motion and Ornstein-Uhlenbeck(OU) process.
- Proposed the novel optimizing method for GAN to converge to an equilibriumin in minimax game.

### Deep learning for partial differential equations based on large meshgrid datasets

**July. 2018-Present**

Devise an algorithm capable of achieving human proficiency in transforming observed data into predictive mathematical models of the physical world.

- Develop deep learning algorithm to leverage the governing equations by extracting patterns from high-dimensional data generated.
- Apply deep learning approach to find the solutions of partial differential equation and non-linear dynamics problems.
- Design the loss function to force the optimized process converge in Sobolev space.

### Analysis of Autoregressive hidden Markov model under asymmetric Laplace distribution

*March. 2017- Nov. 2019*

Formulated daily observations of stock price as Autoregressive hidden Markov model to predict stock price and regime switching.

- Generalized the algorithm that allowing Stochastic differential equation (SDE) to adjust parameters based on Markovian process in high dimensions.
- Modeled the stock price as discrete-valued Markov process under an asymmetric Laplace distribution for forecasting the stock prices.