

# ANDREW LIANG

## Software Engineer

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## EXPERIENCE

### Software Engineer

#### Belvedere Trading LLC

📅 August 2019 – March 2020 📍 Chicago, IL

- Bolster profits by at least \$500,000 through introduction of dynamic position calculation and representation in trading applications.
- Decrease trader downtime by automating algorithm setup & creation for new products.
- Simplify company strategies via maintenance and expansion of automated hedging systems.

### Systems/Software Engineer

#### Northrop Grumman Corporation

📅 June 2018 – August 2019 📍 Rolling Meadows, IL

- Shipped robust core observation and recording framework to both company employees and clients
- Provided most efficient version of defense capability to client by modeling product and optimizing its parameters
- Reduced learning curve for 50+ engineers on core company testing software library by automating documentation using Jenkins and Python

### Full Stack Developer

#### Hack4Impact UIUC

📅 February 2018 – May 2018 📍 Urbana-Champaign, IL

- Shipped an interactive map based web application using React, Redux, and Flask to the nonprofit organization Neighborhood News Bureau
- Bolstered client productivity by incorporating an intuitive copy-paste user interface
- Built all map-related endpoints for the RESTful API

## PROJECTS

### Trading Bot

📅 March 2020 – Present

- Employ AI algorithm in Python (Jupyter) to analyze prevailing market conditions and make profitable trades
- Enforce risk management checks to minimize avoidable losses
- Prevent overfitting and ensure validity of model via rigorous backtesting tools

### Lunar Lander

📅 March 2020 – May 2020

- Solve the OpenAI Gym [Lunar Lander](#) environment using a Double Deep Q-Learning Agent with prioritized experience replay

## PUBLICATIONS

### Journal Articles

- Liang, A., S. Yau, and H. Zuo (2016). "A sharp estimate of positive integral points in 6-dimensional polyhedra and a sharp estimate of smooth numbers". In: *Science China Mathematics* 59 (3), pp. 425–444.

## SKILLS

AI Machine Learning Matplotlib  
Numpy Jupyter Neural Networks  
Simulation & Modeling UNIX/Linux  
Numerical Analysis Git Behave  
Flask React Redux Jenkins  
.NET WPF Automation & Test

## CERTIFICATIONS

Securities Industry Essentials Series 57

## LANGUAGES

Python C++ SQL C# Matlab  
C Java JavaScript HTML/CSS  
English Chinese Spanish

## RESEARCH

### Mathematics

#### University of Illinois at Chicago

📅 2010 – 2014

- Proved the Yau Geometric Conjecture to be true for all cases in six dimensions, producing an estimate for the Dickman-de Bruijn function
- Presented and defended research at the Dongrun-Yau Science Awards regional competition
- Published a fifty-page research paper to *Science China Mathematics* (Liang, Yau, and Zuo 2016)

## EDUCATION

### M.Sc., Computer Science

#### Georgia Institute of Technology

📅 January 2019 – Present

- Dual Concentration in Machine Learning and Computational Perception & Robotics

### B.Sc., Engineering Physics

#### University of Illinois at Urbana-Champaign

📅 August 2014 – May 2018

- Dual Concentration in Computational and Theoretical Physics.