

Allen Wu
Stanford, CA

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EDUCATION

Stanford University Stanford, CA
MS, Management Science & Engineering. GPA: 3.92/4.00. 2016 – 2018

University of Chicago Chicago, IL
BA, Mathematics. GPA: 3.89/4.00. 2011 – 2015
Honors: Phi Beta Kappa, Dean's List, National Merit Scholarship

COURSEWORK

Computer Science: Mining Massive Data Sets, Deep Learning, Algorithmic Techniques for Big Data, Design and Analysis of Algorithms, Decision Making Under Uncertainty, General Game Playing

Decision Theory: Risk Analysis, Stochastic Modeling, Financial Risk Analytics, Professional Decision Analysis

EXPERIENCE

Wizards of the Coast Renton, WA
Game Design Contractor 2017 – 2018

- **Game Development:** Provided insight on the entertainment value, competitive balance, and replayability of new expansions for Magic: the Gathering, a strategy card game played by over 10 million people.

Stanford Stanford, CA
Course Assistant, Introduction to Decision Making Summer 2017

- **Teaching:** Wrote and graded homework assignments and exams, held office hours, and advised students on a course project where they consulted with businesses and applied the tools taught in class.

Sandia National Laboratory Albuquerque, NM
Intern, Resilience and Regulatory Effects Summer 2014

- **Modeling Research:** Researched new economic models to evaluate their strengths and weaknesses.

PROJECTS

Probabilistic Risk Analysis of Colorado Wildfires Spring 2018

- Worked with officials, wildfire experts, and firefighters to determine the costs and benefits of implementing the International Wildland-Urban Interface Codes in Jefferson County, Colorado.
- Designed and implemented a Markov time-series model to predict wildfire behavior and damages.

SBA Loan Risk Analysis Winter 2017

- Evaluated the risks of asset-backed securities and portfolios of loans using linear and logistic regression, neural networks, and hazard rate modeling.
- Compared the predictions, accuracy, sensitivity, and specificity of the different approaches.

Playing Blackjack with Deep Q-Learning Winter 2017

- Implemented a blackjack state-machine following typical casino conventions.
- Constructed and trained a deep Q -network in PyTorch to determine the optimal blackjack policy.

Magic: the Gathering Hand Simulation Winter 2017

- Developed a Monte Carlo simulation framework for generating and interpreting opening hands, using it to determine how consistent particular decks are and to find optimal deck configurations.

SKILLS

Fluent: Python (NumPy, SciPy, PyTorch, Pandas, Matplotlib), Java, Excel

Conversational: Clojure, Julia, TensorFlow, R, Stata, Spark, SQL, Mandarin

Communication: L^AT_EX, Markdown, Google Suite, Microsoft Office

INTERESTS

Magic: the Gathering

- Winner of Pro Tour 25th Anniversary (2018) and Grand Prix Albuquerque 2016.
- Ranked #15 on the live Elo leaderboard, with a rating of 2118.
- Built models to analyze tournament results, improve in-game decision-making, and forecast player behavior.
- Published a series of articles on channelfireball.com, one of the top Magic content websites.