

Ryan S. Brill

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Education and Coursework

University of California, Berkeley

Aug 2016 - Present

- Double Major in Mathematics and Statistics
- Computer Science Minor
- Regents' and Chancellor's Scholarship Recipient
- GPA: 3.8

(Expected May 2020)

Research and Work Experience

Honors Thesis

Sept 2019 - Dec 2019

- Exploring the intersection of Automatic Theorem Proving and Machine Learning
- Using Conflict Driven Clause Learning, with branching heuristic given by a Graph Neural Network, trained by Reinforcement Learning, to solve a subset of Quantified Boolean Satisfiability problems
- Created a novel graph, which combines the original structure of a Boolean Formula with its Conjunctive Normal Form, to feed into the Graph Neural Network

RIPS Singapore, National University of Singapore – Summer Researcher

June 2019 - Aug 2019

- Led a research group in the RIPS Singapore program (Research in Industrial Projects for Students) at the IMS (Institute for Mathematical Sciences) at NUS (National University of Singapore)
- Sponsored by Nvidia, my project was entitled “Exploring a Type-Theoretic Environment for Python”
- Current type-theoretic theorem provers like Coq are robust, but have a steep learning curve and are difficult to use, so Nvidia wanted us to explore creating a type-theoretic theorem proving environment in Python, with emphasis on ease-of-use and ability to link to Nvidia's ML and AI algorithms
- Created a prototype Python library, and learned about type theory, building a theorem prover, and Coq

Berkeley Mathematics Directed Reading Program

Jan 2019 - Present

- Analyzed *An Introduction to Stochastic Differential Equations* by Evans with a math PhD candidate to learn about Brownian Motion, the Ito integral, and the connection between SDEs and PDEs

Calhat Enterprises, Berkeley, CA – Co-Founder

Aug 2016 - Jan 2018

- Created “Calhat,” a “street” hat brand marketed to university students at 5 universities: “Calhat” (UC Berkeley), “Cusehat” (Syracuse), “Slughat” (UC Santa Cruz), “Statehat” (San Diego State), and “Wildhat” (Chico State)
- Found and engaged supplier in China through Alibaba to manufacture thousands of hats
- Led guerilla marketing/branding campaign

UC Berkeley Neuroeconomics Lab – Research Assistant

Jan 2017 – Dec 2017

- Assisted Haas Business School professor and psychology Ph.D. candidate with study to understand how the brain computes and represents values that allow an individual to make economic decisions
- Built and maintained a Pygame program, used in conjunction with a dynamometer, to present participants with incentivized (paid) choice dilemmas and measure their reactions

Stout Risius Ross, LLC, Los Angeles, CA – Summer Intern

June 2018 - Aug 2018

- Worked in Complex Securities Valuation group of global valuation advisory firm
- Valued exotic assets such as the “carried interest” of a hedge fund invested in Uber, and the “earnout” of an acquisition of one healthcare company by another

Interests

- Mathematics Undergraduate Student Association, Texas Holdem, Fantasy Football, Sports Betting, Producing Rap Instrumentals, Mountain Biking, , Drawing, Board Games