

# Ben Zhang

yxbzhang@gmail.com · benzy.xyz

## EDUCATION

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**University of Waterloo** Waterloo, ON  
B. Math. Computer Science, Combinatorics/Optimization. GPA: 3.9+ 2015 - April 2020

- Recipient of the CIBC National Scholarship, granted to one top performer in Math and CS.

## EXPERIENCE

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**Hudson River Trading** New York, NY  
*Algorithm Developer* August 2020 - Present

**Citadel** New York, NY  
*Data Strategies Group, Quantitative Research Intern* September 2019 - December 2019

- (NDA) Alpha research; deploying ML/complex statistical inference models on large datasets.

**Hudson River Trading** Chicago, IL / New York, NY  
*Core Intern* May 2019 - August 2019

- (NDA) C++, Python, SIMD/AVX. Research in efficient computing in high frequency space.

**MemSQL** Seattle, WA  
*Query Optimization, Software Engineering Intern* May 2018 - August 2018

- Developed sampling optimizations for the MemSQL engine, a distributed relational database. Uniform sampling from rowstore tables was improved exponentially by iterating over skiplist levels.
- Designed and implemented the Automatic Histogram Generation Framework, which gathers histogram statistics on columns for cardinality estimation, and improves query plan choices.

**Facebook** Menlo Park, CA  
*Applied ML, Software Engineering Intern* May 2017 - August 2017

- Caffe2 (now PyTorch 1.0) is a deep learning framework, powering all of Facebook's ad delivery.
- Implemented compile-time optimizations such as Common Subexpression Elimination, and developed a framework which tests optimizations at run-time, only applying them if performance improves.
- For a Hackathon, created a tool in Hack/PHP which displays activity for searches of querystrings as a Heatmap. Tool is adopted by Data Science teams, the only intern Hackathon project of 2017 to ship.

## AWARDS

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**International Olympiad in Informatics**, Bronze Medal 2014, 2015

**International Olympiad in Linguistics**, Honorable Mention 2015

**Canadian Mathematics Olympiad**, 11th place (2014), 14th place (2015) 2014, 2015

**Traders at MIT**, 2nd place overall, 1st place in Day of Competition 2020

**Jane Street Trading Hackathon**, 1st place 2016 (SF), 2017 (UW)

## PROJECTS AND ORGANIZATIONS

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**Waterlo Data Science Club** 2017 - Present  
*President (Sept 2018 - April 2019), Lecturer*

- Hosted weekly lectures on statistics and machine learning topics, and organized workshops for hundreds of members. Founded the reading group for reinforcement learning. 10x'd club membership.

**MIT Battlecode** 2017  
*2nd Place, Waterloo Omega Ruby*

- Worked in a team of three to develop a AI which plays a real time strategy game over the course of a month. Placed 2nd over 1000+ teams, in a double knockout elimination bracket.

**Waterloo ACM-ICPC** 2015 - 2018  
*Waterloo Red (3rd team)*

**Canadian Computing Competition** 2015 - Present  
*Problemsetting Committee*

- Collaborating with CS professors, developed algorithmically challenging problem sets for 3000+ high school students in Canada. Gave presentations during the IOI selection camp to top 20 finishers.