

# YangJunqing Qiao

**About Me** I am a multidisciplinary **mathematics and computer science student** with an interest in understanding, building, scaling, and advancing **systems for data driven solutions**. My main areas of focus are **machine learning and artificial intelligence** with a skill set biased towards designing, deploying, and upgrading **advanced statistical models**.

## Education

### University of Massachusetts, Amherst

MS in Computer Science (*September 2018 - February 2020*)

BS in Computer Science and Mathematics (*September 2014 - June 2018*)

## Experience

### June 2019 - August 2019, Software Engineer Intern, Raytheon

Detailed achievements:

- **Decreased latency of operator commands** by parallelizing the main status polling thread of radar operating software (C++)
- **Streamlined software testing process** by developing a hardware emulator to simulate operator commands. (Python)
- **Increased the validity of standard testing procedure** by helping to identify and resolve long standing segfault bug. (C++)

### June 2017 - August 2017, Junior Investigator, REU UMass Amherst (funded by NSF)

Detailed achievements:

- Authored a survey paper detailing the **insights circuit and complexity theory have on the power and behavior of neural networks**
- Showed why **neural networks are hard to analyze** and understand on a theoretical level by compiling several theorems reducing them to **unsolved problems in circuit theory**.

## Projects

### 2019, Detecting Latent Heuristics in BERT, Reproducibility Paper

Tested **BERT** on two traditionally difficult NLP tasks to **probe its reliance on latent statistical heuristics and biases** in the datasets. (Python, Pytorch, Google Colab)

### 2018, Gaussian Normalization, Neural Networks Final Project

Building on the idea of batch and copula normalization, I investigated and drew conclusions about the effectiveness of **normalizing arbitrary layers of a neural network with a Gaussian distribution**. (Python, Pytorch, Google Colab)

## Skills

### Programming

- |        |         |            |
|--------|---------|------------|
| ○ Java | ○ Shell | ○ Python   |
| ○ C++  | ○ SQL   | ○ HTML/CSS |

## Awards

### 2020, Datathon Finalist, Brown University

Awarded to the top 6 competing teams