

# Hao Qin

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## EDUCATION

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### Shandong University

09/2014-06/2018

*Major:* Mathematics and Applied Mathematics

*Degree:* Bachelor of Science

*GPA:* 4.3/5.0

### University of Wisconsin-Madison

09/2018-06/2020

*Major:* Data science

*Degree:* Master degree

*GPA:* 3.7/4.0

### University of Arizona

08/2020-now

*Major:* Statistics and Data Science

*Degree:* Doctorate degree Candidate

*GPA:* 3.9/4.0

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## HONORS AND AWARD

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- ✚ Spring 2021 semester full tuition scholarship and fellowship, University of Arizona, 01/2021
- ✚ The 3rd Prize in the 8th Chinese Mathematics Competitions (CMC), Population Committee of CMS, national level, 09/2016
- ✚ The 1st Prize in the Campus Network Knowledge Contest, Shandong University, University level, 10/2015
- ✚ The 2nd Class Scholarship in 2014-2015 Academic Year, Shandong University, 09/2015
- ✚ The 3rd Prize in Shandong University Mathematical Contest in Modeling, Undergraduate College of SDU, University level, 05/2015
- ✚ Mu Sigma Rho member, 09/2021-now

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## RESEARCH EXPERIENCE

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### Stock Price Forecasting based on Deep Learning

12/2017 - 06/2018

Forecasting stock trend is quite difficult real-world problem. The project is aimed to provide a neural network way to do forecasting, using Neural Network to do forecasting of time series problem and compare its performance to the traditional statistic model. We need to balance the overfitting and underfitting, acquire the stock data from website by implement web spider and doing variable selection, which is a best chance for me to combine statistical model with computer skill for finishing a task.

### Image Colorization With Deep Learning Methods

02/2020 - 06/2020

Image colorization is not a new problem but training the model faster is a quite difficult problem. My project is to implement CNN network with a grid color space, to coloring image at a faster pace. During the project, building the neural network is a real challenge as well as tuning the parameters. I choose Pytorch as the primary tool to implement the function. It will become a tremendous contribution to my future study with python language to do machine learning or deep learning works.

### Bandit Algorithm using KL-divergence

12/2021 - now

Developing a new bandit algorithm which would be applied in the multi-armed bandit model. The multi-armed bandit model problem is that an agent to need to explore in simultaneously choices which could help them to acquire more knowledge and optimize its decision based on existing information which means exploitation. The current algorithm could solve this problem under some well-defined model setting and I want to design a more general method which might use the Maillard Sampling, a more advanced technique compared to the well-known Thomas Sampling.

## REAL WORLD EXPERIENCE

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**Shandong Mingzhu Construction Engineering Consulting Co., Ltd**

**07/2016-09/2016**

*Intern*

- Reviewed tenders' quotation, quality and project progress strictly;
- Assisted superior to complete the bidding work;
- Collected data, analyzed data and made report.

**University of Arizona**

**09/2021 - now**

*Graduate Assistant*

- TA in the MATH 112 and STAT 263
- Assisted instructor to complete coursework
- Grading homework and delivering several lectures

## EXTRACURRICULAR ACTIVITIES

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**SDU Student Association**

**03/2015-11/2017**

- Taking charge of routine network management;
- Guiding freshmen for accessing Internet and dealing with troubles.  
*Network Administrator, 8 hours/week*

## CERTIFICATE AND SKILLS

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- ✧ Computer: Programming with C (NCRE certificate, rank 2), CUDA, R, Python and Matlab
- ✧ Mathematical Statistics: Applied mathematical statistics proficiently and got 99/100 in this course.
- ✧ General GRE Date: 08/25/2017 V: 158, 80%; Q: 170, 97%; AW: 3.0, 18%
- ✧ TOEFL Total: 100