

# Mingchao Zhang

✉ mz5@illinois.edu    ☎ 510-316-7252

## Education

---

**University of Illinois at Urbana-Champaign**

Champaign, IL

*B.S. in Mathematics and Computer Science GPA: 3.9/4.0*

*Expected Graduation: June 2020*

## Skills and Coursework

---

**Relevant Coursework:** Machine Learning, Intro to Algorithm, System Programming, Data Structure, Computer Architecture, Web Programming, Database Systems, Logic, Probability Theory

**Technologies:** C, C++, Python, HTML, CSS, JavaScript, SQL, LISP(Scheme, Racket, Clojure), Assembly(MIPS), TensorFlow, NumPy

## Experience

---

**Fundamental Mathematics (Math 347) Tutor**

2018 Spring

*UIUC, Math*

- Teach students how to write proofs and guide them to solve math problems

**Discrete Structures (CS 173) Course Assistant**

2018 Fall

*UIUC, CS*

- Explain math and CS concepts to students and guide them to solve math problems

## Projects

---

**RSA Encryption**

- Understand and implement the RSA encryption in Racket
- Able to encrypt English texts and decrypt encrypted messages with small keys

**Scheme Interpreter (CS 61A, UCB)**

- Understand how the functional programming language like Scheme functions in terms of its calling conventions and function frames in recursive calls
- Use Python3 to implement a Scheme Interpreter with advanced features such as, Lambda Procedure, Mu Procedure and Macro Procedure

**Visualization of the Brownian Motion on a CR Sphere**

- Understanding the structure of hyper-dimensional sphere and the stereographic projection
- Use Mathematica, Python and MatLab to visualize the sphere in 4-D and the Brownian Motion in it

**Classical Machine Learning Model Implementation (CS 446)**

- Implement a basic neural network to classify images from MNIST database
- Implement OLS, Logistic Regression and PCA

**Personal Website**

- Implement modern website features such as Modal and Carousel using HTML/CSS and JavaScript
- <https://mingchao-zhang.github.io/>