

Mingchao Zhang

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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

Courses taken: Machine Learning (CS 446), Intro to Algorithm (CS 374), System Programming (CS 241), Logic (CS 498), Data Structure (CS 225), Computer Architecture (CS 233)

Courses In Progress: Art and Science of Web Programming (CS 498), Database Systems (CS 411), Numerical Methods (CS 357)

Programming languages: 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

Fall 2017

- 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)

Summer 2017

- 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

Spring 2018

- 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

Basic Machine Learning Model Implementation (CS 446)

Summer 2018

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

Personal Website

Summer 2018

- Self-taught HTML/CSS and JavaScript