

Yucheng Shi

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Education

Master of Science

University of Chicago, Computational and Applied Mathematics

Sept. 2019 – Jun. 2021

Bachelors of Science

University of Michigan, Ann Arbor, Computer Science, Mathematics

Sept. 2016 – Jun. 2019

Bachelors of Engineering

Shanghai Jiaotong University, Electrical Computer Engineering

Sept. 2014 – Aug. 2018

Skills & Abilities

Courses taken: DATA STRUCTURE, WEB SYSTEM, OPERATING SYSTEM, DATABASE, COMPUTER SECURITY, MOBILE APP DEVELOPMENT, MACHINE LEARNING

Programming Languages: C++, C, PYTHON, JAVASCRIPT, HTML, JAVA, SQL

Work and Internships

TrustKernel

Shanghai

Software Development Engineer Internship

May 2019 – Aug. 2019

Digital Key SDK development for Borgward:

- implemented crypto operations APIs for IOS side.
- fixed several application vulnerabilities that could lead to severe security issues.
- added ECDH as an option for the key exchange process and ECDSA as an option for the signing part.

University of Michigan

Ann Arbor

Undergraduate Researcher at Lab of Geometry (Math Dept.)

Sept. 2018 – Apr. 2019

Generalized a conclusion related to degree three complex polynomials and Gauss Lucas Theorem into higher dimension.

AXA SPDB Investment Managers

Shanghai

Internship, Research Assistant

Apr. 2018 – Jun. 2018

- Implemented trading strategies developed by co-workers.
- Analyzed theoretical trading strategies performance and validated it on history data.
- Wrote a python script to help non-technical co-workers to do data cleaning.

Shanghai Jiaotong University

Shanghai

Teaching Assistant for Calculus II & III

Sept. 2015 – Dec. 2015, Feb. 2016 – Apr. 2016

Held recitation classes and office hours. Graded homework.

Projects

A Visual Approach to Complex Analysis

University of Michigan, Lab of Geometry

Sept. 2018 – May 2019

Use an interactive complex function visualizer to analyze the phase portraits of complex functions.

Vector Information Pick up from Tire 2D Cross Sections

Shanghai Jiaotong University. & GITI

May 2018 – August 2018

Wrote Python codes to extract rough contours from images of tire 2D cross sections. Used OpenCV to refine the rough contours. Extracted other information such as key points and belt plies based on the refined rough contours.

NBA Games Prediction

University of Michigan, Ann Arbor

Jan. 2018 – Apr. 2018

Formulated a math model to predict NBA games outcome. Used k -nearest neighbor, SVM, random forest and gradient tree boosting to predict the game outcomes separately. Analyzed the performance of these methods.

Error Correcting Codes and Cryptography

Shanghai Jiaotong University

May 2017 – Aug. 2017

Discussed the mechanism underlying error correcting codes used in public key cryptography. Formulated the mechanism using advanced mathematics tools. Implemented a simplified Sidelnikov's cryptosystem (a public key cryptography system based on error correcting codes) using C.