Yucheng Shi

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Education

Master of Science

University of Chicago, Mathematics   *upcoming 2019.09*

Bachelors of Science

University of Michigan, Ann Arbor, Computer Science & Mathematics   *2016.09 – present*

Bachelors of Engineering

Shanghai Jiaotong University, Electrical Computer Engineering   *2014.09 – 2018.08*

Skills & Abilities

Programming Languages: C++, Python, JavaScript, Java, R

Software : LaTeX, Mathematica, Matlab

Projects

A Visual Approach to Complex Analysis

University of Michigan, Lab of Geometry   *Sep 2018 – present*

Use an interactive complex function visualizer to analyze the phase potraits 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 – April 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 Cyptography

Shanghai Jiaotong University   *May 2017 – August 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.

Work and Internships

University of Michigan   **Ann Arbor**

Undergraduate Researcher at Lab of Geometry (Math Dept.)   *Sep 2018 – present*

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

AXA SPDB Investment Managers   **Shanghai**

Internship, Research Asistant   *April 2018 – June 2018*

Implemented trading strategies developed by co-workers using Python. Analyzed theoretical trading strategies performance and validated it on history data.

Guotai Junan Securities   **Shanghai**

Internship   *May 2017 – August 2017*

Wrote scripts to collect data related to film industry. Researched and analyzed China film industry.

Shanghai Jiaotong University   **Shanghai**

Teaching Assistant for Calculus II & III   *Sep 2015 – Dec 2015, Feb 2016 – April 2016*

Held recitation classes and office hours. Graded homework.

Coursework

Math420: Advanced Linear Algebra	Math451: Advanced Calculus	Math462: Math Modeling
Math465: Intro to Combinatorics	Math493: Abstract Algebra I	Math494: Abstract Algebra II
Math525: Intro to Prob Theory	Math526: Stochastic Process	Math555: Complex Variables
Math567: Coding Theory	Math573: Mathematical Finance	Math575: Intro to Number Theory
VV454: BVP for PDE	EECS281: Algorithm & Data Structures	EECS370: Computer Architecture
EECS445: Intro to Machine Learning	EECS482: Intro to Operating System	EECS485: Web Systems
EECS388: Computer Security	EECS441: Mobile App	EECS484: Database