Yucheng Shi | Curriculum Vitae

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Education

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*

Projects

Error Correcting Codes and Cyptography

Shanghai Jiaotong Univ.   *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.

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.

Vector Information Pick up from Tire 2D Cross Sections

Shanghai Jiaotong Univ. & GITI Company   *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.

A Visual Approach to Complex Analysis

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

Use an interactive complex function visualizer that allows the position of the mouse to be used as an input of a second complex variable into function. As moving the mouse around the screen, a four (real) dimensional object, two dimensions at a time is obtained.

Work and Internships

Shanghai Jiaotong University   **Shanghai**

Teaching Assistant for Calculus II   *Sep 2015 – Dec 2015*

Held recitation classes and office hours. Graded homework.

Shanghai Jiaotong University   **Shanghai**

Teaching Assistant for Calculus III   *Feb 2016 – April 2016*

Held recitation classes and office hours. Graded homework.

Guotai Junan Securities   **Shanghai**

Internship   *May 2017 – August 2017*

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

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 previous data.

Coursework

- Advanced Linear Algebra   - Abstract Algebra

- Complex Analysis   - Real Analysis

- Combinatorics   - Coding Theory

- Probability Theory
- Number Theory
- Mathematical Modeling
- Algorithms and Data Structures
- Machine Learning (ongoing)
- Web system (ongoing)

- Stochastic Process
- Mathemetical Finance
- Cryptography
- Computer Architecture
- Computer Vision (ongoing)