

DAVID YILONG ZHENG

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EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Cambridge, MA

B.S.E. in Mathematics and Computer Science. GPA: 5.0

May 2018

- Relevant Coursework: Design and Analysis of Algorithms; Software Construction; Artificial Intelligence; Abstract Algebra; Computation Structures; Finance Theory; Probability Theory; Differential Equations

WORK EXPERIENCE

SYNAPTICS INC. FINGERPRINT RECOGNITION TEAM

San Jose, CA

Architecture Intern

June 2015 – August 2015

- Added a new technique to a preexisting feature-extraction algorithm to better handle low-noise image regions.
- Discovered a method of reducing misdetection of feature points along image borders.
- Designed a recursive-search algorithm and user interface to align fingerprint images over a continuous domain.

SLOAN SCHOOL OF MANAGEMENT

Cambridge, MA

Undergraduate Researcher under Professor Christian Catalini

February 2015 – Present

- Designing clustering metrics to classify and analyze Bitcoin transactions.
- Created MIT's public wallets directory (wallets.mit.edu) for securely sharing Bitcoin addresses.

MIT LABORATORY FOR INFORMATION AND DECISION SYSTEMS

Cambridge, MA

Undergraduate Researcher under Professor Devavrat Shah

September 2014 – February 2015

- Implemented a pairwise ranking algorithm based on the concept of "rank centrality".
- Built a website that allows users to collaboratively rank items and schedule meetings.

PERSONAL PROJECTS

- **Go Bot (2015):** Deep learning AI to play the board game Go, one of the few strategy games in which humans can still beat computers. Python, Theano
- **IndoorMaps (2015):** Mobile app to create and view maps of large walking spaces such as malls or event venues. Features include navigation tools and the ability to add location and temporal-specific content. Objective-C, iOS, Parse
- **RoomSort (2015):** A program to help students choose from hundreds of different dorm rooms at MIT's Next House based on individual preferences and real-time availability updates. Google Cloud Scripting, JavaScript
- **MIT Public Wallets Directory (2015):** MIT's website for adding and sharing Bitcoin addresses securely through SAML protocol. Python, Django, HTML/CSS/JavaScript
- **Sudoku Solver and OCR (2014):** A Sudoku reader, solver, and puzzle generator. The solver uses increasingly advanced strategies and can assess the difficulty of the puzzle. The reader uses k-Nearest Neighbors to perform optical character recognition. Python, OpenCV

AWARDS

- **Akuna Capital Best Strategy Award:** Three-player pot-limit poker bot using evolutionary neural networks
- **USA Physics Olympiad Gold Medalist** and Two Time Semifinalist
- **USA Math Olympiad Qualifier** and Three Time AIME Qualifier

LANGUAGES AND FRAMEWORKS

- **Proficient:** Python; C/C++; Java; Django; JavaScript; JQuery; Ajax; HTML; CSS; git
- **Familiar:** MATLAB; AngularJS; NodeJS