

# MATTHEW SHEN

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## EDUCATION

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UNIVERSITY OF CALIFORNIA, SAN DIEGO  
SIXTH COLLEGE

San Diego, CA  
May 2024

*B.S. Computer Science (Intended)*

- *Academics:* 3.50 Cumulative GPA
- *Relevant Courses:* Data Structures & Object-Oriented Design, Electricity & Magnetism, Linear Algebra, Discrete Mathematics, Multivariable Calculus, Analytical Geometry, Mechanical Physics, Linux & Vim Editor Techniques

MISSION SAN JOSE HIGH SCHOOL

Jun 2020

- *Academics:* 3.66 Unweighted GPA | SAT: 1550
- *Honors:* 2020 National Merit Finalist, 2020 AP Scholar with Distinction, President's Volunteer Service Award
- *Athletic Achievements:* 2019 USATT (Table Tennis) Nationals 3<sup>rd</sup> place – U2200 Super Tier Division D, 2018 ICC Butterfly American Open – U600 & U800 Champion, 2<sup>nd</sup> degree Black Belt in Tae-Kwon-Do since 2016

## PROJECTS

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CODEWARS (Community-sourced Programming Challenges)

Jun 2020 – Sept 2020

- Surpassed expected efficiency on the 7x7 Skyscraper challenge, ranked at the highest difficulty, level 1 out of 8
  - Given the number of skyscrapers that can be seen from each row and column from each direction, with taller blocking shorter, I constructed the grid of the 49 skyscrapers by determining each of their heights from 1-7
- Implemented recursive techniques to find Solve for 24 challenge's every possible solution, ranked level 2 out of 8
  - Given 4 random numbers from 1-13, use any combination of elementary operators to reach an output of 24

BENFORD'S LAW REPRODUCTION

Jan 2020

- Modeled Benford's law using 1000+ real datapoints, showing that distribution of first digits is heavily left-skewed
- Iterated through each datapoint and incremented respective counter by implementing arraylists and a file scanner

MEMORY TILES GAME

Dec 2019

- Built nxn game with HTML and Javascript where one flips 2 tiles at a time with the goal of matching all tile pairs
- Used variable states to allow for both mouse and touch-screen gameplay and stacks as well as queues to store data

2019 SOLARHACKS (Hackathon)

Oct 2019

- Designed a digital dot notebook using HTML5 Canvas with scalable geometric and artistic features like lines and semicircles as well as color-fill, brush-tip, and freeform "whiteboard" abilities for users on mouse or touchscreen

## LEADERSHIP & ORGANIZATIONS

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FREMONT POLICE EXPLORER PROGRAM

*Police Explorer & Volunteer*

Fremont, CA  
Aug 2017 – present

- Completed 6-month Field Training program as a probationary Explorer, culminating in a weeklong San Diego bootcamp that mirrored police academy training and physical and ethical standards to become a Police Explorer
- Implemented and studied radio codes, California vehicle codes, and penal codes for community service and public safety events such as ride-along patrolling, traffic direction, and crowd control for town parades and fundraisers
- Aided in SWAT team live training, acting as civilians in emergency scenarios to assess officers' first-aid response

## SKILLS & INTERESTS

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*Programming Languages:* Java, Python, HTML, C, CSS, Javascript

*Skills:* Markdown, Powerpoint, Excel, Word, Public Speaking, Communication, Event Management, Market Research

*Interests:* table tennis, hiking, rock climbing, biking, skiing, snowboarding