

ALAN CHEN

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EDUCATION

Brown University - *Expected Graduation May 2025*

2021 - Present

Intended Computer Science + Applied Math Double Major

- **Relevant Coursework:** Data Structures and Algorithms, Linear Algebra, Multivariable Calculus, Discrete Mathematics, Statistical Inference, Differential Equations, Cryptography

Montgomery Blair High School

2017 - 2021

Science, Mathematics, and Computer Science Magnet Program

Certificate of Meritorious Service, Maryland Merit Scholastic Award, US President's Awards for Academic Excellence, US Presidential Scholar Candidate

RELEVANT TECHNICAL SKILLS

Programming Languages: Python, Java, C++, R, MATLAB, Functional Programming (Racket, Pyret), Javascript, HTML/CSS

Libraries/Frameworks: Pytorch, Tensorflow, Numpy, scikit-learn, OpenCV, pandas, Anaconda

Software/Tools/OSs: Git, Unix shells, VSCode, Microsoft Office, Windows, Linux, macOS

WORK EXPERIENCE AND PROJECTS

University of Maryland - CS/Quantum Physics Research Intern

May 2020 - December 2020

Mentored by Dr. Victor Galitski and Shankar Balusubramanian

Researched the coupling of discrete supersymmetry and the localization landscape to predict the behavior of high energy eigenstates. Worked with both coding simulations in Python and proving mathematical theory. Recognized as national top 300 projects in Regeneron's Science Talent Search and selected as an alternate to present at the International Science and Engineering Fair.

waifuGAN/NFT - DCGAN for cartoon faces, NFT trading

August 2021 - Present

Created a DCGAN-based cartoon face generator in Pytorch. Dataset was custom webscraped and cropped using OpenCV. Currently working to improve model in preparation for non-fungible token trading.

NASA GSFC - Paid AI Research Intern

July 2021 - August 2021

Mentored by Dr. Yaping Zhou

Used machine learning and AI models (random forest, deep learning) in tensorflow and sklearn (Python) libraries on massive collocated dataset to predict aerosol optical depth, an important factor in predicting natural disasters like dust storms.

NASA GSFC - Paid CS/Meteorology Research Intern

June 2019 - August 2019

Mentored by Dr. George Huffman

Performed extreme value analysis in R on high-resolution precipitation data collected by the GPM satellite. Presented work at 100th American Geophysical Union Meeting.

Willows of Potomac Swim Team - Assistant Coach

2018 - 2021

Coached younger kids and assisted in growth and outreach of swim team, including organizing events, managing finances, coaching/writing practices, and competing in meets.

SELECTED DISTINCTIONS AND EXTRACURRICULARS

Outreach Committee Head, Brown CS Departmental Undergraduate Group

2021 - Present

Regeneron National Science Talent Search Top 300 Semifinalist

2021

Intel Science and Engineering Fair Alternate

2021

American Invitational Mathematics Exam Qualifier

2018, 2019

American Mathematics Competition Distinguished Honor Roll

2018

Montgomery Blair High School Varsity Swim Team Captain

2018 - 2021