

# ALAN CHEN

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## EDUCATION

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**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

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**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

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**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 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

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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*