WILLIAM HUANG

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EDUCATION

BS in Computer Science & Physics, Stanford University. GPA: 4.25/4.0. *2022–present*
Coursework: CS 106B (Data Structures and Algorithms) **A+**, CS 103 (Discrete Math & Computability Theory) **A+**, Math 51 (Linear Algebra and Multivariable Calculus) **A+**.

High School Graduate, Lynbrook High School. GPA: 4.0/4.0. *2018–2022*
Valedictorian, SAT: 1590/1600, National Merit Finalist (Top 1% in US).

SKILLS

Coding Languages	Python, C++, Java, HTML, CSS, JavaScript, LaTeX.
Machine Learning	PyTorch, Keras, Microsoft Azure. Proficient in CNNs, RNNs, KNN clustering, data augmentation, and regularization.
Algorithms	Graph theory (e.g. DFS/BFS, Dijkstra/Bellman-Ford, MSTs), Dynammic Programming (e.g. Knapsack, Bitmask), Data Structures (e.g. trees, sets, maps, DSUs).
Technologies	React, Node, Next, Tailwind CSS, Eclipse, Git, IntelliJ, Jupyter, VS Code, Unix.

AWARDS AND ACCOLADES

International Physics Olympiad, Team USA **(Top 5 in US)**, Gold Medal *2021*

International Olympiad in Astronomy and Astrophysics, Team USA **(1st in US)**, 2x Gold Medal *2020, 2021*

USA Computing Olympiad (USACO) Gold Competitor *2019*

Regeneron Science Talent Search (STS) Scholar *2022*

National Science Bowl Champion, Captain *2022*

PROJECTS

Identification of Gene Signature Profiles of Asthma Using Machine Learning
Trained deep neural networks in Microsoft Azure to recognize gene signature profiles of asthma, an underdiagonosed disease. Using a novel gene clustering algorithm for feature selection, my deep learning model achieved 95.8% accuracy on data from the Gene Expression Omnibus (GEO).

Probabilistic Prediction of Earthquakes in California with Recurrent Neural Networks
Analyzed plate tectonic stability and probability of future earthquakes across California using data from the United States Geological Survey (USGS). Trained a recurrent neural network (RNN) informed with energy dynamics, soil and rock composition, and historical earthquake data.

EXPERIENCE

Lead Researcher studying Fast Radio Bursts (FRBs) at Stanford University *June 2020–August 2022*
Developed Python package to perform Efron-Petrosian statistical analysis on truncated data, generate simulated data to match existing distributions, and provide error margins on extracted parameters. Named Regeneron Science Talent Search Scholar.

US Physics Team Member *June 2021–August 2021*
One of five on the US team in the International Physics Olympiad held in Lithuania. Won a Gold Medal for the United States.

Research Intern at the University of California, Santa Cruz *June 2019–August 2021*
Performed 3D modeling of galactic morphologies of substructural features and stellar halo simulations in Python to find key trends between velocity and spatial distributions and accretion history. Publications in the American Astronomical Society, American Physical Society Far West Section.