

EDUCATION

Valley Christian High School Class of '22

GPA: 4.7917 (#2 out of 385), 15 AP Classes

AP Computer Science A, AP Physics C, Multivariable Calculus, AP Statistics, Advanced Data Analysis, Linear Algebra

Accepted to Stanford University Class of '26

Plan to study applied math & computer science

EXPERIENCE

Researcher, MIT PRIMES-USA (Jan 2021 - Present)

- One of ~50 students accepted to prestigious research program
- Develop bio-inspired algorithm to solve Steiner Tree problem
- Write algorithm in Java, data analysis and graphics in Python
- Setup Amazon Web Services and build container images using Docker
- Present at conferences, 2 papers submitted to journals

CEO, Valley Christian MATE ROV Underwater Robotics Team (2018 - Present)

- Develop control system, coral identification program & ethernet camera streaming software
- Build custom PCB and electronic system
- Set milestones, design timelines, and manage team
- Lead team to win 3rd place in the 2021 International Telepresence division, first world championship qualification in school history

Co-Founder, Madam Math Circle

- Create an international community of young female mathematicians
- Provide free online advanced math classes to 4-7th grade females
- Grow to over 100 members with chapters in USA, India, and Mexico (instruction in Spanish)
- Lead global team of over 20 volunteers

Intern, NASA SEES - STEM Enhancement in Earth Science (2020, 2021)

- Design algorithm to identify water covered by clouds in satellite data
- Aggregate data to make recommendations on how to reduce urban heat island effect
- Present at NASA Earth Day '21 and American Geophysical Union '21

Researcher, Advanced Data Analysis Fall Data Challenge (2021 - Present)

- Analyze data using Excel, JMP, Python (Matplotlib), R
- Work with team to create statistical report on food insecurity for American Statistical Association's Fall Data Challenge

Student, Stanford University Mathematics Camp (2020, 2021)

- Study algebraic topology, abstract algebra, and number theory, particularly applications to cryptography and RSA
- Presented research project on Logjam attack against TLS protocol
- Completed challenging proof-based problem sets typed in LaTeX

AMSE (Applied Math, Science, Engineering) Electrical Fellow & Computer Engineering Intern, Valley Christian ISS (International Space Station) Research Lab (2019 - Present)

- Design experiment, analyze data, and write report on acid disassociation in microgravity
- Teach electrical and research workshops
- As paid intern, create next generation ISS Research platform to enable future students to run and monitor experiments in space. Worked on clock, file systems, and cameras.
- Identify need for testing platform and design testing Arduino shield PCB

Assistant Team Lead and Technical Coordinator, Rainforest xPrize (2019 - Present)

- Develop system to analyze biodiversity in rainforest
- Create communication networks

Student Advisory Board Team Chair, Diamond Challenge Entrepreneurship (2020 - Present)

- Work in and lead global virtual team
- Create YouTube videos to educate students about entrepreneurship
- Mentor teams from around the world and moderate panel at summit

AWARDS

Regeneron Science Talent Search Scholar

Recognized as top 300 young scientist & engineer

National Merit Semifinalist

Coca-Cola Scholars Semifinalist

Selected based on outstanding leadership, academics, and community service

Google Code Jam 2021 Round 2 Qualifier

One of 4,500 qualifiers out of 37,398 participants (mainly computer science professionals)

Canada Computing Senior Division 2021: Honor Roll Group 1

Top 50

USACO Gold

American Computer Science League 2021 Gold Medalist

Won gold (top 7 globally)

CMU Cybersecurity Competition picoCTF 2019 Top 10%

Decrypt data and exploit vulnerabilities

American Mathematics Contest 10 Distinguished Honor Roll 2020

Top 1% globally

Math League Nationals 2021

6th place, 11th grade division

Diamond Challenge Entrepreneurship Competition 2019: Top 20 Teams Globally

Develop and prototype business concept, write business plan, pitch to judges

SKILLS

- Programming (Java, Python)
- Data structures & algorithms
- Statistical analysis in Excel, JMP, and Matplotlib
- Schematic & PCB design in Autodesk EAGLE
- CAD in Autodesk Fusion & Inventor