

# AARON JOEL GEORGE

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Science, technology, and electric vehicle enthusiast. Motivational STEM speaker. Inventor of multiple engineering solutions and winner of the US Navy STEM Award, the Lemelson Early Inventor Award, the Regeneron ISEF 2022 Grand Award, and the Regeneron ISEF 2023 Special Awards. Founder and President of a nonprofit providing STEM resources to K-12 students in the US and abroad. Student pilot and aspiring space flight surgeon who dreams of solving complex neurological and astronautical medical challenges. Currently seeking a rigorous, inclusive academic environment in the biomedical/health sciences and/or engineering/technology.

## EDUCATION

### Home School (Acellus High School Curriculum), Austin, TX

2024 - Present

*Senior, Class of 2025*

Studying Acellus High School curriculum in support of science research, internship roles, ambassador roles (in three leading National programs), and leadership activities while gaining the required high school education.

### St. Dominic Savio Catholic High School, Austin, TX

2021 - 2024

**Leadership roles:** Lead Coach of the Iron Eagles Robotics Prime Team (Affiliated with FIRST Robotics), Outreach Coordinator of the Engineering Club, Student Ambassador, Hospitality Ministry Lead, Master of Ceremonies for Freshman Orientation

**Honors:** National Honor Society, Mu Alpha Theta Math Honor Society Scholar, Member of the National Society of High School Scholars, National Spanish Honor Society, National Computer Science Honor Society, High Honor Roll

**Extracurricular:** Percussionist in Pep Band and Wind Ensemble, Varsity Golf Athlete, CyberPatriot

### Harvard University, Cambridge, MA

2024-2024

Introduction to Epidemiology and Biostatistics (STAT S-103)

Harvard Summer School Scholar

Undergraduate credits: 4, Grade: A

### National Aeronautics and Space Administration (NASA) - Texas High School Aerospace Scholar

2023 - 2024

Space Exploration, Earth Science, Technology, and Aeronautics

### Harvard University, Cambridge, MA

2023 - 2023

Design of Renewable Energy Projects (ENVR E-102)

Harvard Summer School Scholar

Undergraduate credits: 4, Grade: A

### Harvard University, Cambridge, MA

2023 - 2023

Sustainable Product Design and Innovation Ecosystem (ENVR S-154)

Harvard Summer School Scholar

Undergraduate credits: 4, Grade: A

### Yale University, New Haven, CT

2023 - 2023

Yale Young Global Scholar, Innovation in Science and Technology (IST III)

### The University of Texas, Austin, TX

2022 - 2022

Dual Enrollment, Engineering Design and Problem Solving (ES 01)

Undergraduate credits: 3, Grade A

## WORK EXPERIENCE

### SAT Math Tutor

2024- Present

#### Schoolhouse.world

- Invited and accepted to be an SAT Tutor for high school students prepared for Digital SAT.
- Tutoring SAT Math to up to 10 students per boot camp.

- Student Ambassador and Operations Intern, A Vetiver Initiative for Wayanad and Beyond** **2024- Present**  
**US Citrus, LLC, Hargill, TX**
- Under the leadership of Professor Emeritus of Texas A&M University, Agricultural Scientist and Researcher, and Entrepreneur Dr. Mani Skaria Ph.D, as a student ambassador and operations intern.
  - Became part of the initiative to plant and distribute 1+ million vetiver plants in the Wayanad, Kerala, India region to prevent future landslides and save thousands of human lives.
  - In addition to this, as an operations intern, responsible for creating a website (<https://VetiverForEarth.org>), funding platform, and accounts, and coordinating partnerships for this project.
- Student Cancer Researcher, Institute of Cancer Immunotherapy** **2024- Present**  
**University of Texas - Rio Grande Valley School of Medicine, Edinburg, TX**
- Engaged in cutting-edge cervical and pancreatic cancer research under esteemed researchers Dr. Subhash C. Chauhan, Ph.D., and Dr. Vivek Kashyap, Ph.D.
  - Research comprises both in vitro and in silico studies, contributing to advancing cancer treatment methodologies.
  - Worked under grants from NIH, DoD, etc.
- Advisor and Lead, YTexas 2024 Summit Education Committee** **2024- Present**  
**YTexas, Austin, TX**
- Championing the efforts to engage high school and college students in the 2024 YTexas Summit
  - Assist YTexas leadership and Summit Host Committee in partnering with educational institutions and education-related matters
  - Utilize my network to gain the partnership and attendance of large companies such as Tesla
- Ambassador and Alumni** **2024- Present**  
**Yale Young Global Scholar at Yale University, New Haven, CT**
- Champion the Yale Young Global Scholar program to peers and the community
  - Assist leadership staff with initiatives and national events
- Member and Ambassador** **2024- Present**  
**St. Jude Children's Research Hospital Leadership Society, Memphis, TN**
- Shared a passion for leadership, service, and community with high-performing high-school and collegiate members
  - Raised funds and awareness for the kids of St. Jude Children's Research Hospital
- Surgeon's Student Intern**  
**ATX Robotic Surgery, Austin, TX** **2023 - Present**  
*Under Dr. Sudeep Dustin Burman, D.O., F.A.C.S., General Robotic Surgeon utilizing the DaVinci Xi Surgical Platform*
- Gained knowledge of maintaining and updating patient files using electronic medical records (EMR) software.
  - Conducted comprehensive and accurate note-taking during patient consultations, surgeries, and other medical procedures.
  - Provided constructive feedback and recommendations to the physician to enhance patient care and overall practice performance.
  - Edited and produced high-quality surgical content for the practice's marketing materials and social media platforms.
  - Coordinated with other medical professionals and staff members to ensure seamless patient care and efficient practice operations.
  - Participated in ongoing learning opportunities.
- President and Founder** **2023 - Present**  
**STEMVest, Austin, TX**
- Founded a nonprofit foundation focused on identifying and sharing STEM resources with K-12 students in the US and abroad
  - The resources include educational materials, sponsoring students for STEM events and tools, mentoring, networking, and career path guidance.
- Director of IT Operations** **2023 - Present**  
**Entropy Surgical, Austin, TX**
- Setup Google Workspace for team communication and productivity

- Define and build a portal to support marketing information and host surgical training content

#### **Ambassador and Mentor**

**2023 - Present**

##### **National Society of High School Scholars, Atlanta, GA**

- Organize community service projects and gatherings
- Communicate with members about programs and initiatives
- Promote scholarships and other opportunities
- Mentor for Be More Grant competition participants

#### **Software Developer Intern**

**2022 - 2023**

##### **Corvalent Corporation, Cedar Park, TX**

- Troubleshooted, edited, and created software components for the company's CAT-CSM asset monitoring platform, ensuring it met clients' needs in various industries, including medicine, oil and gas, aviation, and defense.
- Utilized expertise in programming languages such as Python, C++, Java, and ReactJS to develop efficient and reliable software components.
- Collaborated with cross-functional teams to ensure seamless integration of software components into the CAT-CSM platform.
- Created Internet of Things (IoT) systems using Raspberry Pi and Corvalent-manufactured motherboards and sensors, resulting in reliable hardware-focused solutions.
- Participated in team meetings and provided valuable insights and recommendations to enhance product development and innovation.
- Maintained up-to-date knowledge of industry trends and best practices and incorporated them into developing software and hardware components.

## **PROJECTS**

#### **Reusable Screening Method for Malarial Infections from Thin Blood Smear Images using Convolutional Neural Network - Year 2 (2024)**

- Improved the accuracy and sensitivity of the previous version of the project from 94% to 96% and 91% to 96%.
- Reduced the footprint of the previous version of the prototype from 385 cubic inches to 168 cubic inches.
- Presented at the Greater Austin Regional Science and Engineering Fair (won special awards).

#### **In Silico Accelerated Drug Discovery and Development Utilizing Human Physiological Modeling and Simulation (2023)**

- An Artificial Intelligence-based software application will assist with studying the efficacy of new molecules through modeling and simulation, potentially saving over \$500 million annually in research and development.
- Presented at Austin Energy Regional Science Fair (won 1st place & best of fair), Texas State Science and Engineering Fair, and Regenerator International Science Fair (won special awards).

#### **Reusable Screening Method for Malarial Infections from Thin Blood Smear Images using Convolutional Neural Network (2022)**

- A rapid, reusable, and low-cost screening method with 91% sensitivity, 97% specificity, and 94% accuracy, and the potential to save \$40 million to \$120 million in annual screening costs.
- Presented at Austin Energy Regional Science Fair (won 2nd place and special awards), Texas State Science and Engineering Fair (won 1st place and blue ribbon), Regeneron International Science and Engineering Fair (won 3rd place), Sigma Xi International Forum on Research Excellence (won best presentation award, inducted as a member), and the National Society of High School Scholar - Scholar's Day 2023 (won \$10K Be More grant).
- Built and presented a business plan for Harvard University's Sustainable Product Design and the Innovation Ecosystem undergraduate course.

#### **An Engineering Solution to Detect Bullying Related Violence and Notify School Administrators (2020)**

- An advanced solution using Artificial Intelligence to analyze sound waves 360 degrees, detect bullying-related violence, and notify school administrators.
- Presented at Austin Energy Regional Science Fair (won Passion for Science award, Lemelson Inventor award, and 4th place), Texas State Science and Engineering Fair, Broadcom MASTERS, and Arizona State University Sustainability Science Fair.

### **An Engineering Solution to Prevent Hot Car Child Deaths (2019)**

- An advanced solution using IOT sensors to sense the presence of children and pets left in automobiles and alert promptly using different channels.
- Presented at Austin Regional Science Fair (won 3rd place) and Texas State Science and Engineering Fair

## **PUBLICATIONS**

- **Aaron George.** "Elon Musk's Big Texas Move: SpaceX and X AI Relocate Headquarters." *YTexas.com*, YTexas, 18 July 2024, <https://ytexas.com/relocation/elon-musks-big-texas-move-spacex-and-x-ai-relocate-headquarters>.

## **RESEARCH PUBLICATIONS**

- Kashyap, V.K., Nagesh, P.K., Singh, A.K., **George, A.**, et al. Curcumin attenuates smoking and drinking activated NF-KB/IL-6 inflammatory signaling axis in cervical cancer. *Cancer Cell Int* 24, 343 (2024). <https://doi.org/10.1186/s12935-024-03513-z>

## **ACHIEVEMENTS, AWARDS, AND HONORS (2020 - Present)**

- **Harvard University Summer School Scholar** - Introduction to Epidemiology and Biostatistics - June - August 2024
- **National Society of High School Scholars** - Winner of Research and Academic Paper \$1,250 Scholarship - May 2024
- **Greater Austin Regional Science and Engineering Fair - The United States Air Force Research Laboratory Outstanding Science or Engineering Fair Award Winner** - February 2024
- **Greater Austin Regional Science and Engineering Fair - UTHealth Houston Health Innovation Award Winner** - February 2024
- **St. Jude Leadership Society** - Member and Ambassador, February 2024
- **Yale Young Global Scholars** - Ambassador, January 2024
- **Harvard University Extension School Scholar** - Design of Renewable Energy Projects - October - December 2023
- **National Society of High School Scholars** - Winner of Nobel Academic Excellence \$5,000 Scholarship - December 2023
- **National Society of High School Scholars** - Ambassador - November 2023
- **National Society of High School Scholars** - Winner of Be More \$10,000 Grant - November 2023
- **National Aeronautics and Space Administration** - High School Aerospace Scholar, October 2023
- **Harvard University Summer School Scholar** - Sustainable Product Design and Innovation Ecosystem - June - August 2023
- **Yale Young Global Scholar** - Innovation in Science and Technology (IST) - July 2023
- **Regeneron International Science and Engineering Fair - The United States Patent and Trademark Office Society Special Award Winner** - May 2023
- **Regeneron International Science and Engineering Fair - The United States Air Force Research Laboratory Special Award First Place in Biomedical/Health Sciences Winner** - May 2023
- **Catholic Daughters of America Essay Contest 1st Place Winner** - May 2023
- **Austin Energy Regional Science Fair - Biomedical/Health Sciences Category award 1st Place Winner** - February 2023
- **Austin Energy Regional Science Fair - Best of Fair** - February 2023
- **Austin Energy Regional Science Fair - Texas State Science and Engineering Fair Qualifier Award Winner** - February 2023
- **Austin Energy Regional Science Fair - International Science and Engineering Fair Qualifier Award Winner** - February 2023
- **Civil Air Patrol (US Air Force Auxiliary) Intermediate STEM Achievement Award Recipient** - December 2022
- **Civil Air Patrol (US Air Force Auxiliary) Community Service Award Recipient** for completing over 60 hours of community service outside of CAP. - December 2022
- **Sigma Xi Science Research Honors Society Inducted Member** - November 2022
- **Sigma Xi Science Research Honors Society Winner of Top Interdisciplinary Research Presentation in the Field of Human Health** - November 2022
- **American Statistical Association Member** - October 2022
- **Civil Air Patrol (US Air Force Auxiliary) Achievement Award Recipient** for outstanding services in the field of science and technology - June 2022
- **Civil Air Patrol (US Air Force Auxiliary) Rank Promotion to C/MSgt** - June 2022
- **Regeneron International Science and Engineering Fair - Biomedical/Health Sciences Category Grand Award 3rd Place Winner** - May 2022
- **US Agency for International Development (USAID) Special Award Finalist** - May 2022

- **Texas State Science and Engineering Fair - Biomedical/Health Sciences Category Award 1st Place Winner** - March 2022
- **Texas State Science and Engineering Fair - Regeneron International Science and Engineering Fair Qualifier Award Winner** - March 2022
- **Texas Workforce Commission's Full Scholarship Recipient** to attend Texas Governor's Science and Technology Champions' Academy at Southern Methodist University (SMU) - March 2022
- **Catholic Daughters of America Essay Contest 1st Place Winner** - May 2022
- **Austin Energy Regional Science Fair - Biomedical/Health Sciences Category Award 2nd Place Winner** - February 2022
- **Austin Energy Regional Science Fair - Texas State Science and Engineering Fair Qualifier Award Winner** - February 2022
- **BioAustin - Biomedical/Health Sciences Special Award Winner** - February 2022
- **Diocese of Austin Superintendent - Austin Energy Regional Science Fair Special Award Winner** - February 2022
- **First Technology Challenge Austin Metro League Freight Frenzy Robotics Competition Runner-up** - 2022
- **First Technology Challenge Austin Metro League Freight Frenzy Robotics Competition 3rd Place Think Award Winner** - 2022
- **First Technology Challenge Regional Championships Freight Frenzy Robotics Competition 3rd Place Design Award Winner** - 2022
- **Texas Association of Private and Parochial Schools State Robotics Competition Winner** - 2022
- **Civil Air Patrol (US Air Force Auxiliary) Wright Brothers Achievement Award Recipient** - November 2021
- **Civil Air Patrol (US Air Force Auxiliary) Basic STEM Achievement Award Recipient** - January 2021
- **Austin Energy Regional Science Fair - Embedded Systems Category 4th Place Award Winner** - February 2020
- **Lemelson Foundation's Early Inventor Award Winner** - February 2020
- **Austin Energy Regional Science Fair - Broadcom MASTERS Qualifier Award Winner** - February 2020
- **Austin Energy Regional Science Fair - Passion for Science Award Winner** - February 2020
- **Austin Energy Regional Science Fair - Texas State Science and Engineering Fair Qualifier Award Winner** - February 2020
- **Arizona State University Sustainability Science Fair Finalist** - April 2020

## **COMMUNITY IMPACT**

- Championed the cause of sustainable energy by educating the public at Tesla Owners of Austin and ALT NRG events in Austin, TX
- Educated Civil Air Patrol cadets on STEM topics including Global Positioning Systems, Aircraft Ground Handling, Raspberry Pi, and the Design of a Hypothesis regarding the impact of space on various objects sent to the stratosphere utilizing a weather balloon in Austin, TX
- Volunteered for environmental improvement, social improvement, and COVID-19 relief projects through Generation SERVE, Any Baby Can, and Del Valle Community Coalition organizations aiding families in Del Valle, TX
- Volunteered for the registration of student pilots for Young Eagles flights at the Experimental Aircraft Association chapter in Georgetown, TX
- Instructed elementary and middle school students in Mathematics and Spelling for academic competitions in Austin, TX

## **STEMVest - NONPROFIT FOUNDATION ACTIVITIES**

- Donated STEM kits and books to K-12 students in underserved areas in South Texas
- Sponsored two paid student-attendees to the YTexas 2023 summit to explore STEM internship opportunities and networking
- Donated over \$8000 to St. Jude Children's Research Hospital, Texas A&M University Colonias Program, Catholic Charities of RGV, Food Bank of RGV, AltaCair Foundation, India Association of RGV, and Deepam Foundation for their STEM initiatives
- Raised over \$3,000 for St. Jude Children's Research Hospital

## **SPEAKING ENGAGEMENTS**

- February 2024 - The National Society of High School Scholars Member Event at Texas A&M University, College Station, TX: Spoke in two different panels sharing scholarship success and enhancing college applications
- February 2024 - The National Society of High School Scholars Member Event at the University of Michigan, Ann Arbor, MI: Spoke in two different panels sharing scholarship success and enhancing college applications
- March 2024 - Mayor's Youth Advisory Council, Edinburg, TX:
- March 2024 - Boys and Girls Club, Edinburg, TX: Gave a motivational speech to the high school student advisors on STEM opportunities and NSHSS membership and benefits
- March 2024 - Councilmembers' Public Hearing, McAllen, TX: Invited to speak about STEMVest and STEM ambassador activities to the city leaders

- April 2024 - El Amistad Scholarship Banquet, Round Rock, TX: Invited to present a motivational speech to 70 scholarship recipients on higher learning success
- June 2024 - Boys and Girls Club, Edinburg, TX: Gave a motivational speech to middle and high school ambassadors on the crown jewels of student success
- July 2024 - Together We are Stronger - Cervical Cancer Awareness, Edinburg, TX: Partnered with the University of Texas Rio Grande Valley Cervical Cancer Prevention Action Network and Texas A&M University's Colonias Program and gave a speech on Cervical Cancer causes, screening, and prevention.
- August 2024 - NFL Alumni Association and YTexas Press Conference, Arlington, TX: Gave a speech on YTexas's Commitment to Supporting High School Students to the press and business network members.
- August 2024 - The National Society of High School Scholars Member Event at the Gaylord National Harbor Convention Center, Washington D.C.: Spoke in two panels sharing tips on leadership growth and scholarship success. Specially invited to present to the NSHSS Foundation Board how NSHSS has impacted my life, and to share my story.
- November 2024 - 8th Annual Community Health Worker Conference, Texas A&M University Higher Education Center, McAllen, TX: Gave a speech on Cervical Cancer in the Rio Grande Valley: Addressing Disparities and Enhancing Prevention.
- December 2024 - The National Society of High School Scholars, Webinar: Spoke in a panel on "New Year, New Opportunities: Planning for Scholarship Success".

### **MEDIA COVERAGE**

- YTexas, October 2023, Exclusive Interview with Aaron George by Scott Murray, "Students at YTexas Summit 2023", <https://www.youtube.com/watch?v=wZ3R4xnrhn4>
- Rio Grande Guardian, April 2024, Exclusive Interview with Aaron George by Mr. Hari Namboodiri, "High school junior sets up nonprofit to help students interested in a career in STEM", <https://riograndeguardian.com/high-school-junior-sets-up-nonprofit-to-help-students-interested-in-a-career-in-stem/>
- 21Alive News, September 2024, Exclusive Interview with Aaron George by Tony Betton Jr., "Aaron George Talks STEM Research", <https://www.21alivenews.com/2024/09/17/aaron-george-talks-stem-research>
- American Bazaar, September 2024, "17-year-old innovator Aaron George aims for stars with STEM work and space aspirations", <https://www.americanbazaaronline.com/2024/09/27/aaron-george-aims-for-stars-with-stem-space-aspirations-456411/>

### **PROFICIENCIES**

- HTML, CSS, Python, Scratch, ReactJS, NodeJS, JavaScript, Raspberry Pi 3/4
- Microsoft Office, Microsoft Office Specialist Certified in MS Word and MS Excel
- Video Editing in iMovie, Final Cut Pro
- FAA Student Pilot Permit holder and an active member of the Experimental Aircraft Association and Academy of Model Aeronautics with over 45 hours of flying Cessna 172, Cessna 182, Cirrus SR20, Cirrus SR22(T), and Piper Tripacer single-engine aircraft
- Percussion instruments - Drums (Snare, Bass, Quad, Cymbals), Roto Toms, Timpani, Marimba, Chimes, Auxiliary Percussion
- Golf - Played on the high school Varsity team for 3 years.