Liyang (Victor) Han

Curious// Passionate // Resilient

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Academics

- Brookfield Central High School, WI (Public high school) 9/2022 - Present
- GPA: **4.0**/4.0 (unweighted), **4.5**/4.0 (weighted)
- Advanced Placed courses and University courses:
  - AP Computer Science, AP Biology, AP Human Geography, AP Psychology, AP Environment, AP Physics I, AP Economics Macro & Micro, AP Calculus AB and BC, AP Physics C, AP US Government, AP US History (in process), AP English Language/Composition (in process)
  - Data Structure, Milwaukee School of Engineering University
  - BWSI Python Core, Version Control, Git & GitHub , MIT BWSI
- SAT: **1550**: 780RW/ 770M, PSAT 1460: 700RW/760M
- AP(Score): AP Computer Science A (5), AP Biology (5), AP Human Geography (5), AP Environment (5), AP Physics I (4)

Awards & Recognition

- International Science & Engineering Fair Finalist (2024, 10th Grade)
- USACO, Golden division (2024, 11th Grade)
- Badger (Wisconsin）State Science and Engineering Fair, 1st Place for Engineering/physics (2024, 10th Grade)
- JSHS (Junior Science and Humanities Symposium), 2nd Place for Wisconsin/Upper Peninsula Michigan Region (2024, 10th Grade)
- FIRST Championship - Houston - World Championship - FIRST Tech Challenge, 4th Alliance Captain, Inspire 2nd Place, as software lead (2023-2024, 10th Grade)
- Congressional App Challenge from Wisconsin's 5th Congressional District, 1st Place (2024, 11th Grade)
- AP Scholar With Distinction Award (2024, 10th Grade)
- The President's Volunteer Service Award (2025, 11th Grade) (in process)
- 2026 National Merit Semi-Finalists (in process)

Research Experience and Activities

1. **Founded and operated the Parkinson Aid Non-profit organization (1/2023~now):**
   1) I designed ***An Auxiliary Rehabilitation Device for Patients with Muscle Tremors*** from early 2023 (9th grade). Dedicating about 2 hours daily for a full year, I independently studied relevant literature, explored Arduino programming, and sought guidance from teachers on circuit design and development methods. The rehabilitation device also includes PD diagnostic and life-

assistance functions. This project earned 1st Place at the 2024 Wisconsin State Science and Engineering Fair, 2nd Place at the JSHS Wisconsin Regional, and a spot as a 2024 ISEF finalist.

2) In Spring 2024, I began public education efforts to raise awareness in our Brookfield city about Parkinson's disease, reduce stigma, and address patients' psychological needs through community outreach and educational programs.
3) By June 2024, I started collecting motion and speech data from Parkinson's patients via public platforms to develop an early diagnostic system. Using deep learning, I integrated computer vision and voice analysis to create a free and accessible system that detects early signs of Parkinson's, addressing the limitations of traditional clinical methods. This research ***"ParkinsonAid"*** earned the 1st Place of Congressional App Challenge from Wisconsin's 5th Congressional District 2024. Now the project is still under further iteration.
4) In addition, in late of 2024 I founded a nonprofit organization dedicated to raising awareness about PD, supporting self-diagnosis and rehabilitation education for patients, and using my rehabilitation device to train volunteers. The nonprofit actively collaborates with other Parkinson's organizations in Wisconsin to create a supportive community where patients and their families can connect, encourage one another, and find solidarity.

2. **Contributed to Advanced Research as a Summer Software Intern (Jun 9 ~ August 25, 2024)**
I joined the SoftCom Lab at the Computer Science Department of California State Polytechnic University, CA, as a research intern. Dedicated over 300 hours (25 hours weekly for 12 weeks), I designed an innovative computer vision tool aimed at enhancing sign language interpretation and translation, contributing to more accessible and inclusive communication solutions.
3. **Led FTC Robotics Team to Global Success (9/2022~now):** As the Software Lead of FTC Team #16460, I played an important role in winning the 2023/2024 Wisconsin State Championship, earning us a coveted spot at the FTC World Championship. At Worlds, we achieved 6th Place in the Franklin Division and were honored with the 2nd Place Inspire Award. Since joining the team as a freshman, I have devoted over 320 hours annually (8 hours per week for 40 weeks) to robotics. As of this 2024/2025 year, we proudly rank 8th globally and 1st in Wisconsin.
4. **Co-Founded a High School AI Club (1/2024 ~now):** As Co-Founder of our 50-member AI Club, I spearheaded initiatives to leverage AI for educational support. We are developing a district-wide academic AI chatbot to assist students with academic challenges, provide guidance on high school education, recommend supplementary resources, and support career exploration and personal interests. In addition to the chatbot project, we've hosted AI knowledge seminars for school district enthusiasts and organized technical symposiums with expert speakers to inspire and educate members. From initial preparation in 10th grade to its official launch, I dedicated nearly 200 hours (4 hours weekly for 50 weeks) to work closely with our leadership team to bring this vision to life.

Community Service /Work Experience

1. **Founded and operated the Parkinson Aid Non-profit organization (4/2024~now)**
   1) In Spring 2024, I began public education efforts to raise awareness in our Brookfield city about Parkinson's disease, reduce stigma, and address patients' psychological needs through community outreach and educational programs.
   2) In addition, in late of 2024 I founded a nonprofit organization dedicated to raising awareness about PD, supporting self-diagnosis and rehabilitation education for patients, and using my rehabilitation device to train volunteers. The nonprofit actively collaborates with other Parkinson's organizations in Wisconsin to create a supportive community where patients and their families can connect, encourage one another, and find solidarity.

2. **Co-Founded a High School AI Club (1/2024 ~now)**
   As Co-Founder of our 50-member AI Club, I spearheaded initiatives to leverage AI for educational support. We are developing a district-wide academic AI chatbot to assist students with academic challenges, provide guidance on high school education, recommend supplementary resources, and support career exploration and personal interests. In addition to the chatbot project, we've hosted AI knowledge seminars for school district enthusiasts and organized technical symposiums with expert speakers to inspire and educate members. From initial preparation in 10th grade to its official launch, I dedicated nearly 200 hours (4 hours weekly for 50 weeks) to work closely with our leadership team to bring this vision to life.
3. **Internship at the SoftCom Lab at the Computer Science Department of California State Polytechnic University, CA (6/2024 - 8/2024)- Volunteer**
   Dedicated over 300 hours (25 hours weekly for 12 weeks), I designed an innovative computer vision tool aimed at enhancing sign language interpretation and translation, contributing to more accessible and inclusive communication solutions.
4. **Volunteer with Key Club (9/2023-6/2024)**
   Earned Gold Member status as a sophomore by contributing to diverse and impactful community service events.
5. **Outreach for FTC Robotics (9/2022-now)**
   Pending for the detail team outreach activities.

Extracurricular Activities

1. **Run Half Marathons (2024~now)**
   Logged 100 miles monthly during summers, completed multiple half marathons competition. Maintain a daily 4-mile run during the school year.
2. **Perform Violin in Chamber Orchestra:**
   Participated in my high school orchestra since freshman to junior as a violinist and currently serves as Concertmaster, spend 200 hours per year.
3. **Compete in school Soccer JV team (8/2022~now)**
   Represented my high school on JV soccer from freshman to junior year in the fall season, and track team to push my limits on the field and track.
4. **Master the Pool Game (8/2023~now)**
   Competed in a professional pool league against nationally ranked players (Top 5000 FargoRate) and refined my skills despite limited local events. I spent 6 hours every weekend for competition, and one-hour daily exercise at home from the sophomore year.
5. **Create Artwork and Fly Drones (9/2022~now)**
   Built a personal art portfolio while capturing nature's beauty through drone photography.

Skills & Talents

Advanced: Python, Java, Swift/SwiftUI， Matplotlib， NumPy， Pandas， Scikit-learn，Seaborn，TensorFlow，PyTorch，NLTK，Scrapy，Anaconda

Intermediate： C++, MATLAB, CSS, HTML

Beginner: C#