



Liyang (Victor) Han

Curious Researcher • Human-Centered Builder • Servant-Leader

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EDUCATION

- **Brookfield Central High School, WI (Public high school)** 9/2022 - Present
- **GPA: 4.00/4.00** (Unweighted, Cumulative), **5.0/4.0** (weighted, Cumulative)
- **SAT (2 sittings): 1550** (780 R&W, 770 M); Superscore: **1560**.
- **University courses:** Data Structure, Milwaukee School of Engineering University;
Linear Algebra and Diff Equations/Anatomy & Physiology/ Calculus III, University of Wisconsin-Milwaukee
- **Programs/Training:** MIT BWSI (Medlytics track): Python Core, Version Control, Git & GitHub

HONORS & AWARDS

- 1) **Regeneron ISEF: Translational Medical Science, Grand 2nd Place Award** — ParkinAid: A Multimodal AI-Powered diagnosis & robot-assisted rehab for Parkinson's Patients (Gr11, International)
- 2) **U.S. Provisional Patent 63/867,720** — ParkinAid: A Multimodal System for Parkinson's Diagnosis through Motor and Speech Disorder Analysis (Gr11, National)
- 3) **Paper "ParkinAid: A Multimodal System for Parkinson's Diagnosis through Motor and Speech Disorder Analysis using Machine Learning and Computer Vision"** will be published in the International Conference Proceedings Series (ICPS) by ACM, which will be archived in the **ACM Digital Library**, indexed by **Ei Compendex, Scopus, etc.**
- 4) **Regeneron ISEF Finalist:** An Auxiliary rehab device for Parkinson's with tremor/stiffness (Gr10, International)
- 5) **USACO Gold Division** (Gr11, National)
- 6) FIRST Tech Challenge (**FTC**) **World Championship twice** as software lead: Inspire Award 2nd Place (Gr10); Worlds Division 2nd Place (Gr11)
- 7) **Congressional App Challenge, WI-5 — 1st Place**— ParkinAid AI Diagnosis App (Gr11, National)
- 8) National Junior Science & Humanities Symposium (**JSHS**) — Finalist (Gr10, National)
- 9) **President's Volunteer Gold Service Award:** Teaching Python for local community (Gr11, National)
- 10) **Diamond Challenge for High School Entrepreneurs — Semifinalist** (Gr11, International)
- 11) **2026 National Merit Scholarship Program — Semifinalist** (Gr12) (Finalist application submitted)
- 12) **John Locke Institute Global Essay Prize:** Theology "Why Pray", *Shortlisted* (Top 18.65%), 2025
- 13) Regeneron Biomedical Science Award, 2025
- 14) Regeneron STS'2026 application (submitted)

RESEARCH & PROJECTS

- 1) **ParkinAid — Multimodal AI Diagnosis & Robot-Assisted Rehabilitation system for Parkinson's** 06/2024 – Present | Independent Researcher
 - Built AI models (motion/tremor/speech, 2K+ samples, ~90% acc); Deployed as web/app for AI diagnosis.
 - **Presented** on the 13th International Conference on Computer and Communications management (ICCCM 2025) on **July 13, 2025**, *the paper will be published in the ICPS by ACM, which will be archived in the ACM Digital Library, and indexed by Ei Compendex, Scopus, etc.*
 - **U.S. Provisional Patent 63/867,720** for ParkinAid Software system.

- 2) Auxiliary Rehabilitation Device for Finger Tremor/ Stiffness of Parkinson's Patients** **01/2023 – 05/2024**
Independent Researcher: Designed mechanical, electrical, software/app for Parkinson glove; Refined motion detection accuracy to 95%. ISEF and NJSHS finalist.
- 3) MIT Beaver Works Summer Institute (BWSI) — Medlytics** **Research Student 07/2025 – 08/2025**
MIT Lincoln Laboratory: Trained MRI lesion-segmentation AI models on large datasets; Presented and recognized as promising by MIT scientists.
- 4) SoftCom Lab, California State Polytechnic University** **Summer Intern 06/2024 – 08/2024**
ASL gesture CV: ~89% acc; Improved cleaning + aug & cross-val; Built scalable PyTorch pipelines w/ docs; Beat SOTA; Cut label noise; x-dataset eval.
- 5) SoftCom Lab, California State Polytechnic University** **Summer Intern 06/2023 – 08/2023**
- Assisted to build and deployed a BERT-based NLP service to detect health misinformation; Collected, cleaned and labeled web data via APIs/scrapers.
 - Optimized Python data pipelines to ingest and process multi-format datasets from diverse online sources.

LEADERSHIP & COMMUNITY ACTIVITIES

- 1) ParkinAid Nonprofit Organization—Founder and President** **1/2024~Present**
- Deliver in-person education to ~2,000 community members on Parkinson's signs, management, and home-based rehab; programs brought to Milwaukee senior centers, Aurora Health Care sites, city farmers' markets, Independence Day events, and the Wisconsin Dragon Boat Festival.
 - To date, **served 1.1K users from 15 countries with 2,500 total sessions** on ParkinAid's AI-assisted Parkinson's diagnosis app (web + mobile)
 - Completed "**Hmong Community Health Access & Parkinson's Early Screening in Wisconsin: A Mixed-Methods Co-Design Study.**"
 - Organized 18 violin performances and 3 community runs, **raising \$5.6K** to support education and access.
 - Train **200** students on Parkinson's basics on campus, amplifying awareness within their families
- 2) FTC Robotics Team 16460 — Captain (Gr12); Software Lead (Gr11)** **09/2022 – Present**
- Led controls/autonomous/CV development; Cut autonomous path variance 35% /failures 50%; Built data-driven scouting and match strategy, adding +30 points/match; Developed vision pipelines/testing harnesses.
 - Mentored rookies through code reviews and driver practice, elevating team performance and reliability.
- 3) AI Club — Cofounder& Editor-in-Chief** **01/2024 – Present**
- Led a 40-issue, biweekly AI newsletter (150+ readers) covering ethics, trends, and tools.
 - Mentored 20+ through project development for science fairs—producing a WI CS 3rd and an ISEF 2025 Robotics 2nd. Curated guest lectures and hands-on workshops.
- 4) French Honor Society & Independent Art-History Research** **09/2022 – Present**
Studied 19th–20th-century Impressionism/Post-Impressionism (Manet, Monet, Van Gogh); produced bilingual talks linking language, history, and visual analysis.
- 5) Python Instructor for community (as volunteer)** **09/2024-6/2025**
Led beginner/intermediate Python sections (~10 students); Mentored API/visualization mini-projects; Assisted in designing modules and tests; Created rubrics and auto-grading scripts; Ran code reviews and office hours.

SELECTED ATHLETICS & ARTS

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| 1) Running: 100 miles/month, multiple half and full marathons. | 6/2023-present |
| 2) Violin: Concertmaster (Gr11); Chamber Orchestra (Gr9–10); community performances. | 2014-present |
| 3) Athletics: Soccer & Track (JV). | 8/2022-present |
| 4) Pool/Billiards: League competitor; ~Top 5,000 FargoRate. | 9/2022-present |

5) **Drawing & Drone Photography:** Personal portfolio and event coverage.

9/2022-present

OTHER SKILLS

Programming: Python, Java; C++, MATLAB; HTML/CSS

ML/DS: NumPy, Pandas, Matplotlib, scikit-learn, TensorFlow, PyTorch

Tools: Git/GitHub; Swift/SwiftUI (intermediate)