

## Youjun (Fred) Han

Email: yhan84273 (at) tutanota (dot) com Phone: (347) 463-0951 <https://www.linkedin.com/in/youjun-han/> <https://fredswqa1.me>

**Education:** New Hyde Park Memorial High School

Class of 2024

GPA Weighted 100.48; GPA Unweighted 97.43; SAT- 1550 PSAT- 1480

High Honor Roll (09/2018-Present)

**Relevant Current Courses:** AP Physics C Mechanics, AP Physics C Electricity & Magnetism, AP Biology, Object Oriented Programming, Computer Essentials

**Relevant Completed Courses:** Regents Advanced Living Environment, Regents Advanced Earth Science, Regents Advanced Chemistry, Regents Algebra I, Regents Geometry, Regents Algebra II, College Pre-Calculus, Pre-Engineering, Multivariable Calculus, Linear Algebra, College Statistics, AP Calculus AB (5), AP Chemistry (5), AP Physics 1 (4), AP Physics 2 (4), & Pre-Engineering II

### In-School STEM Experience

**New Hyde Park Memorial High School Science Research** - New Hyde Park, NY 09/2018-06/2020, 09/2022-06/2023

- Participated in different research competitions annually (i.e. Northwell Health Medical Marvels Competition)

**New Hyde Park Memorial High School Stage Crew** - New Hyde Park, NY 09/2018-Present

- Lights operator and co-president of the club

**Sewanhaka High School Robotics Club** - Floral Park, NY 04/2021-Present

- Assembled and programmed Team 4017's robots for the FTC (First Tech Challenge) competition

### Out-Of-School STEM Experience

**Cybersecurity and Internet of Things Research** - Virtual 07/2022-07/2023

- Worked with Dr. Jatinder Singh through the University of Cambridge on creating a safer Bluetooth experience through improved data provenance and device authentication
- Presented research at the Sigma Xi Student Research Showcase
- Presented research at the Long Island Science and Engineering Fair - Meritorious in judging
- Presented at the Intelligent Cybersecurity Conference at Texas A&M University in San Antonio
- To-be-published in IEEE Xplore

**Summer@Brown Quantum Computing** - Providence, RI 06/2022-07/2022

- Learned quantum physics and computing from Dr. Stefan Stanojevic of Brown University

**NYU Collegiate Seminars Participant** - New York, NY 09/2022-10/2022

- Studied Knot Theory and Viral Host Responses in seminars taught by NYU Faculty

**The Coding School QubitxQubit** - Virtual 10/2022-04/2023

- Received a full scholarship from IBM to the quantum computing seminars
- Created a quantum machine learning algorithm for object detection final project conducted on IBM Quantum Computers

**NASA TechRise Project** - Virtual 12/2022-07/2023

- Received a scholarship to build a CubeSat sent on a high-altitude balloon for physics laboratory research
- Conducted analysis of gravitation at high altitudes and tested the capabilities of low-oxygen cooling methods on microcontrollers

**MIT BeaverWorks Summer Institute Embedded Security Seminar** - Virtual 07/2023-08/2023

- Educated on hacking and manipulation of microcontrollers from Texas Instruments with an instructor from MITRE
- Final project included building a firmware protection bootloader for use in real-world embedded applications

**Overclocking and Residual Neural Network Research** - Virtual 06/2023-09/2023

- Learned complex computer engineering concepts and conducted research with Dr. Seda Memik of Northwestern University
- Research consisted of analyzing the effects of overclocking modern graphics processors on AI Image Classification performance

### Certifications

#### CompTIA

- CompTIA Advanced Security Practitioner+
- PenTest+
- Linux+
- Security+
- Network+
- A+
- Cloud Essentials+
- IT Fundamentals+
- Data+

#### IBM

- Applied Data Science Specialization
- BI Fundamentals with SQL, ETL, and Data Warehousing Specialization
- Data Analysis & Visualizations Foundations Specialization
- Data Analyst Professional
- Data Science Fundamentals Specialization
- Data Science Professional
- Data Warehouse Engineer Specialization
- IT and Cloud Fundamentals Specialization
- Cybersecurity Analyst Professional

#### Miscellaneous

- Google IT Support Certificate
- Google Data Analytics Certificate
- Google Fundamentals of Digital Marketing
- AWS Certified Cloud Practitioner
- (ISC)2 Certified in Cybersecurity
- Microsoft Certified Security Operations Analyst Associate
- Six Sigma Certified White Belt and Yellow Belt
- Scrum Foundation Professional
- Alibaba Cloud Computing Certificate
- SkillFront Information Security Associate

## Other Extracurriculars

### **Information Technologies**

- Writer for cultists.network 01/2022-Present
  - Writes news on computer hardware-related events and reviews keyboards or computer hardware
- Competitive Overclocker 06/2020-Present
  - Top 10% overclocker on hwbot.org in the enthusiast class and captain of the team GTUK
- Freelance Computer Technician 09/2018-Present
  - Repairs and builds computers as a hobby, formerly a computer flipper
- Freelance Ethical Hacker 04/2021-Present
  - Participates in hacking competitions such as those hosted on TryHackMe and a bug bounty hunter on HackerOne

### **Internship**

- **gt.school** - Virtual 07/2022-05/2023
  - Summer intern that worked to pilot a new self-study program for competitive students to accelerate their studies

### **Volunteering**

- **Sunny Chinese Center** - New Hyde Park, NY 09/2022-Present
  - Student director, volunteer, and web developer - Tutored mathematics and Chinese, programmed public website, and helped SCC become a Presidential Volunteering Service Award Certifying Organization status
- **New Hyde Park Chinese Association** - New Hyde Park, NY 09/2022-Present
  - Web developer and volunteer - Helped set up Lunar New Year events, programmed public website
- **Schoolhouse.world** - Virtual 11/2022-Present
  - Volunteer SAT Math tutor on Schoolhouse.world, a nonprofit started by Sal Khan

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## Awards and Honors

- Questbridge National College Match Finalist 10/2023
- National Merit Semifinalist 09/2023
- Questbridge Quest for Excellence: STEM Award 07/2023
- College Board AP Scholar with Distinction 07/2023
- Presidential Volunteering Service Gold Award 06/2023
- Rochester Institute of Technology Computing Award 05/2023
- National Merit Commended Student 05/2023
- Questbridge College Prep Scholar 04/2023
- Reed College Junior Scholar 01/2023
- Literary Luminaries National English Honor Society 11/2022-Present
- Mu Alpha Theta Honor Society 11/2022-Present
- Rho Kappa National Social Studies Honor Society 11/2022-Present
- Tri-M Honor Society 09/2021-Present
- National Science Honor Society 09/2021-Present
- National Junior Honor Society 09/2020-Present

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**Languages:** Fluent in English and Chinese (Mandarin, Fuzhounese, & Fuxingnese), conversational in Spanish and Japanese