

Haoxuan (Dennis) Deng

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EDUCATION

International Curriculum Center of RDFZ

09/2024–Present

AP Scores: Calculus BC (5), Physics 1 (5), Microeconomics (5), Biology (5), Macroeconomics (5), Computer Science A (5), Statistics (5)

High School Summer Scholars Program, Washington University in St. Louis

06/2026–07/2026

Coursework: Biology of the Brain (A+; 3 credits); Biomedical Ethics (A; 3 credits)

Tsinghua University High School–Shangdi

09/2021–06/2024

RESEARCH EXPERIENCE

Independent Researcher

—Balance Impairment in Diabetic Peripheral Neuropathy

07/2026–10/2026

- Conducted a cross-sectional study on balance impairment in diabetic peripheral neuropathy (DPN) using NHANES data from 2,152 adults; reviewed literature, cleaned data, and performed survey-weighted logistic regression in Stata 18 to compare DPN, diabetes without peripheral neuropathy, prediabetes, and healthy control groups
- Found that individuals with DPN had greater difficulty maintaining balance with their eyes closed or while standing on unstable surfaces, but showed no statistically significant difference under normal standing conditions; suggested that peripheral neuropathy may be more closely associated with balance impairment than diabetes status alone
- Authored a 4, 100-word research paper Balance Impairment in Diabetic Peripheral Neuropathy, accepted by the International Conference on Medicine, Medical Genetics and Health (ICMMGH)

Reserve Team Captain and Wet-Lab Researcher, iGEM

04/2025–10/2025

—Engineering Yeast for Natural Food Preservatives

- Performed gene cloning, PCR amplification, and agarose gel electrophoresis to engineer *Pichia pastoris* to express human lysozyme and eight antimicrobial peptides targeting foodborne pathogens
- Coordinated lab work, guided teammates through protein-purification protocols, and co-developed the team's public wiki (<https://2025.igem.wiki/subcat-peking/index.html>)
- Co-authored risk assessments of synthetic additives and presented experimental findings to mock judging panels, contributing to the Global Silver Medal

Independent Researcher, Yuanpei Young Scholars Program

03/2025–07/2025

—Human Tumor Microbiomes Are Site-Specific Across Five Body Locations

- Analyzed microbial abundance and alpha/beta diversity across 424 tumor and healthy-tissue samples from five anatomical sites, including stomach, colon, rectum, esophagus, and head/neck; used the Shannon index, Bray–Curtis PCoA, PERMANOVA, and random forest models to compare microbial community structures
- Found that anatomical site explained 24.4% of microbial community variation, compared with only 0.6% explained by tumor status; identified similar microbial profiles between colon and rectum, and among stomach, esophagus, and head/neck
- Completed an oral defense and earned an A (top 15%); Authored the research paper Human Tumor Microbiomes Are Site-Specific Across Five Body Location, accepted by the International Conference on Biological Engineering and Medical Science (ICBioMed)

LEADERSHIP AND ACTIVITIES

Founder and Editor-in-Chief, Quadrants of Life

06/2026–Present

- Founded and edited a bimonthly bilingual (Chinese-English) magazine covering sports injuries, nutrition, neuroscience, and bioethics; published three issues with eight articles each, totaling approximately 30,000 words
- Distributed the magazine across multiple high schools, reaching over 2,000 students; led the application process for an International Standard Serial Number (ISSN), currently pending

Founder, PEAK Sports and Health Club

10/2025–Present

- Published 12 articles on sports rehabilitation through the club's public account; provided rehabilitation guidance to peers and organized fitness activities
- Built DietBalance (<https://dietbalance.top/>), a nutrition website that provides nutritional information for over 400 cafeteria dishes and meal plans based on users' dietary needs and activity levels, attracting over 5,000 visits
- Invited external experts and professors to deliver online lectures on prevention of abnormal spinal curvature and management of overweight and obesity in adolescents

Captain, Varsity Track and Field

09/2024–Present

- Trained 2 hours/day, 5 days/week, for 44 weeks/year; achieved personal bests of 11.2 seconds in the 100 m and 23.42 seconds in the 200 m, meeting China's National Level II athlete standards
- Represented the school in district and municipal games; broke school records in the 200 m, 4 x 100 m, and 4 x 400 m relay races, earned the team's Most Improved Athlete award, and was elected the Captain
- Led warm-ups, helped the coach set up equipment, and coached younger teammates on relay exchanges

Core Member, FIRST Robotics Competition Club

09/2024–05/2025

- Built the robot chassis and a simulated competition field, wrote and debugged autonomous code, and collected and uploaded scouting data for analysis
- Won the China Regional Championship and FIRST Impact Award, achieving the team's best result in school history; competed at the FIRST Championship in Houston

VOLUNTEER EXPERIENCE

Volunteer, Qingya Sports Rehabilitation for Special Children

02/2026–03/2026

- Assisted coaches with badminton lessons for children with autism at a rehabilitation center; guided children through movements and offered emotional support
- Wrote and published the article "How Can Sports Training and Home-School Cooperation Foster Integration for Children with Special Needs?" to promote understanding and inclusion of children with special needs

Medium-Pace Group Leader, He Yajun Blind Aid Group

10/2025–05/2026

- Guided visually impaired runners at Beijing Olympic Park; was appointed to lead the medium-pace group (5:00 min/km) after passing an assessment
- Ran alongside visually impaired partners using a tether, alerted them to upcoming turns and changes in road conditions, adjusted running pace to their needs, and encouraged them throughout each session

Volunteer, Chenguang Rehabilitation Center for Children with Cerebral Palsy

08/2025–Present

- Volunteered 2.5 hours/week for 32 weeks/year; taught reading, writing, and arithmetic to children with cerebral palsy, played Gomoku and painted with them
- Assisted with muscle relaxation exercises using a massage ball under therapists' guidance; discussed challenges of long-term rehabilitation at home with therapists and parents
- Organized a World Cerebral Palsy Day outreach event at Longzexi subway station, introducing cerebral palsy to passengers with brochures and children's artwork; promoted the event through the rehabilitation center's official WeChat account

Volunteer, Peek a Book House

10/2023–03/2025

- Arranged and catalogued books, maintained the reading area, and read picture books and popular science books to young children during weekend reading sessions

AWARDS AND CERTIFICATES

- USA Biology Olympiad (USABO), China Division, Top Gold (top 5%), 2026
- British Biology Olympiad (BBO), Silver Medal, 2026
- Harvard International Review (HIR) Academic Writing Contest, Silver Medal, 2026
- National Level II Athlete, 100 m, 2026
- International Genetically Engineered Machine (iGEM) Competition, Silver Medal, 2025
- American Mathematics Competition 12 (AMC 12), top 10%, AIME qualifier, 2025
- FIRST Robotics Competition, China Regional Champion & FIRST Impact Award, 2025
- School-Level Merit Student, 2025
- National Level II Athlete, 200 m (School Record Holder), 2025
- Haidian District Champion, 4 x 100 m & 4 x 400 m Relays (School Record Holder), 2025

SKILLS AND INTERESTS

- Programming: Python, C++, Java
- Running and Fitness: 5 years
- LEGO Model Building: 13 years
- Drumming: 8 years
- Board Games: 8 years