

William Dong

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EDUCATION

Carnegie Mellon University

Expected May 2030

B.S. Materials Science & Engineering (Incoming Freshman)

Great Valley High School

2022 – 2026

Senior | Malvern, PA

Relevant Coursework: AP Physics: Mechanics, AP Physics: E&M, AP Calculus BC, AP CSA

EXPERIENCE

Founder & CEO

2024 – Present

Formula Theory and Automotive Design (FTAD) — 501(c)(3) Nonprofit

- Founded an F1-inspired robotics competition nonprofit, securing \$65,000+ in investment funding through targeted sponsorships and grant acquisition.
- Conducted extensive market research and obtained international product validation, establishing FTAD's competition framework across multiple countries.
- Engineered competition vehicle designs using Onshape and Fusion 360, applying CFD simulation and topology optimization to maximize aerodynamic and structural performance.

MechE Intern — UGV Defense Company

Summer 2026

Raptor Defense Company

- Led SCORPION, an expendable payload vehicle, as lead and sole mechanical engineer — owning the full mechanical design from concept to working prototype.
- Designed the complete assembly in Onshape in 6 days, then manufactured and assembled it in 3.
- Delivered on spec: exceeded 50 mph (conservative estimate), used under 50% of the R&D budget, and passed the preliminary test matrix.
- Built a Portable Control Unit for the electronics team in SolidWorks.

Design Lead & CAD Specialist

2024 – 2026

VEX Robotics — World-Qualified Competitive Team

- Led all mechanical design and CAD work on a team that qualified for the VEX World Championship in the 2024 season.

LEADERSHIP & ACTIVITIES

Co-Founder

2022 – 2024

NextGen Business & Law Forum — 501(c)(3) Nonprofit

- Organized entrepreneurship competitions for 500+ students across the United States.
- Oversaw event logistics, curriculum development, and partner outreach.

Competitive Boxer

2023 – Present

USA Boxing

- Two-time PA State Champion (2024 & 2025).
- Volunteer boxing coach, mentoring athletes ages 12–34 in technique, discipline, and sportsmanship.

SKILLS

CAD & Design: Onshape, Fusion 360, SolidWorks, CFD Simulation, Topology Optimization

Programming: Python, Java, C++

Engineering: Kinematic Systems, Structural Analysis, Aerodynamic Simulation, Rapid Prototyping, UGV Systems

Soft Skills: Project Management, Team Leadership, Fundraising & Grant Acquisition, Market Research

INTERESTS

Kinematics Engineering, Automotive Engineering & Racing Technology, Unmanned Systems, Defense Technology, Entrepreneurship, Combat Sports