

ERIC ZHANG

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EDUCATION

University of Illinois Urbana-Champaign

Expected May 2030

Bachelor of Science in Computer Engineering

Urbana, IL

- **Relevant Coursework:** MATH 285 (Introduction to Differential Equations), MATH 415 (Applied Linear Algebra), ECE 145 (First-Year Design Laboratory), ECE (Introduction to Computing)

Lexington High School

Sept. 2022 – May 2026

High School Diploma | GPA: 3.92 UW | SAT: 1570

Lexington, MA

- **Honors:** USACO Silver, AP Scholar with Distinction, Honor Roll
- **Harvard Extension School:** MATH E-21A (Multivariable Calculus), MATH E-21B (Linear Algebra)

TECHNICAL EXPERIENCE

Illini Electric Motorsports | *Electrical and Software Subteams Member*

Aug. 2026 – Present

- Sizing low-voltage battery (DCDC/DCDC-less) cells for target nominal current and voltage draw with safety factor
- Designing PCB schematic in Altium for ADBMS6830 for monitoring secondary battery cell temperatures

Beaver Works Summer Institute (MIT) | *Autonomous Underwater Vehicles*

July 2025 – Aug. 2025

- Developed Python codebase with ROS 2 to handle autonomous navigation tasks for BlueROV2 robot
- Implemented heading/depth PID control and computer vision nodes enabling AprilTag following and lane detection
- Developed autonomous routines for course competition, verified in simulation with Gazebo/QGroundControl

LHS VEX Robotics | *Build & Code, Team Member*

Sept. 2024 – May 2026

- Designed physical mechanisms using CAD by analyzing geometries to ensure proper interaction with game elements
- Implemented extremely precise autonomous routines to score and navigate using move-to-point algorithms and PID control; maintained despite unexpected robot collisions in addition to minute-long skills routines
- Qualified teams 66659A and 15797X to MA State Championship, quarterfinals at two 60+ team Signature Events, Tournament Champion at regional qualifier, strong eliminations performance at various competitions

LHS Science Olympiad | *Varsity Team Member*

Sept. 2022 – May 2026

- Worked collaboratively in Onshape across part studios and assemblies to recreate blueprints for Engineering CAD
- Tuned velocity-control PID and slip compensation for centimeter-level accuracy, transporting payloads to targets
- Designed pusher mechanism in CAD, balancing center-of-mass placement over the axis of rotation of the robot to improve turn accuracy and consistency over long runs
- 2nd Place Team at Massachusetts State Championship and Rocks & Minerals State Champion; top-6 in Engineering CAD, Robot Tour, and Disease Detectives at MIT, Stanford/Berkeley, and Harvard invitationals

Lexington Informatics Tournament (LIT) | *Problem Setter*

May 2023 – May 2026

- Designed Capture the Flag (CTF) cybersecurity problems for contest drawing 1,000+ users
- Authored a PNG forensics challenge based on CVE-2023-21036 (aCropalypse), requiring competitors to recover image data appended past the IEND chunk terminator

VOLUNTEER SERVICE

Science Olympiad Outreach & Mentorship | *Coach & Test Writer*

Apr. 2023 – May 2026

- Authored and graded invitational tournament exams in Disease Detectives across MA and OH (100+ competitors)
- Coached Clarke Middle School Science Olympiad team on epidemiology and geology for state tournament

Summer Science Seminars & LHS VEX Camp | *Instructor & Counselor*

July 2022 – Aug. 2025

- Developed interactive slide decks and activities covering programming, cybersecurity, and geology for 20+ students
- Mentored students new to robotics by introducing engineering, programming, and PID concepts

SKILLS

Languages: C/C++, Python, Java, L^AT_EX

Tools & Hardware: Git/GitHub, Unix Shell, Onshape, Gazebo, VEX Hardware, KiCad, Altium, Oscilloscopes

Frameworks & Libraries: ROS 2, OpenCV, NumPy, Arduino

Spoken: English (native), Mandarin Chinese (fluent)