

# Matthew Kwon

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## EDUCATION

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### Olin College of Engineering, Needham, MA

Bachelor of Science in Mechanical Engineering

May 2028

- **Cumulative GPA:** 4.0UW

### Palos Verdes Peninsula High School, Palos Verdes, CA

June 2024

- **Cumulative GPA:** 4.76W, 3.9UW
- **Awards & Honors:** NHS, CSF, SNHS, AP Scholar with Honors
- **Relevant AP Coursework:** AP Physics 1, AP Physics C, AP Calculus AB, AP Computer Science A, AP Computer Science Principles

## SKILLS

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- **Mechanical:** Mill(CNC/Manual), Lathe(CNC/Manual), Laser Cutter, 3D Printer, OnShape, Solidworks, Fusion 360, TIG, Spot Welding, FEA, Sheet Metal
- **Languages:** Java, Python, MATLAB

## EXPERIENCE

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### Lemelson MIT InvenTeams, Rancho Palos Verdes, CA

Mechanical Team Member [September 2022 – August 2024]

- Received a \$7500 grant to develop a technologically advanced wheelchair as part of the Lemelson-MIT InvenTeams project, aimed at improving accessibility and mobility for individuals with disabilities or impairments.
- Designed and machined the wheelchair frame, ensuring structural integrity and functionality through precise 3D modeling and fabrication.
- Collaborated on integrating motorized systems to enhance mobility, focusing on efficient motor, battery, and control systems for reliable real-world use and sustainability.

### Formula SAE Competition Team, Needham, MA

Mechanical Team Member/Accumulator Sub-Team Lead [September 2024 – Present]

- Collaborated with the electrical team to ensure seamless integration and ensured realistic space claims with other parts.
- Conducted Finite Element Analysis (FEA) to verify stress tolerances and ensure reliability and safety in all parts of the accumulator.
- Designed and fabricated multiple high-voltage battery segments, integrating comprehensive safety features to ensure reliable and compliant in-vehicle operation.

### VEX Robotics Competition, Rolling Hills, CA

Team Leader/Mechanics Lead [June 2020 – April 2024]

- Led the design and construction of competition robots for annual VEX Robotics challenges, ensuring high performance and innovation.
- Assigned team members to roles based on their strengths and interests, fostering a collaborative and effective mechanical team environment.

### Poké Me Palos Verdes, Palos Verdes, CA

Front of House Team Member [July 2023 – August 2024]

- Delivered excellent customer service, prepared and served food, and managed closing duties to ensure efficient daily operations.
- Mentored and guided new employees, overseeing their performance during shifts to maintain smooth workflow and uphold service quality.

### Blue Jackets at Torrance Memorial Hospital, Torrance, CA

Escort Services [November 2020 – November 2023]

- Guided and trained new volunteers on hospital procedures and etiquette, ensuring they were well-prepared for their roles.
- Interacted with patients, providing escort services throughout the hospital, and assisted with the timely delivery of lab specimens.

## ACTIVITIES

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**Activities:** Piano, Cello, Golf, Swimming, VEX Robotics Club