Ellie Kung

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EDUCATION

Olin College of Engineering **Needham, MA**
BS in Mechanical Engineering Aug 2024 – May 2028
Relevant Coursework: Modeling & Simulation, Mechanics of Solids & Structures, Thermodynamics, Software Design, Environment Technology & Society, Principles of Integrated Engineering

PROJECTS

Soil Sensing Snake **Needham, MA**
Principles of Integrated Engineering Project Oct 2025 – Dec 2025
- Led a team of four to design a snake robot that slithers and senses soil moisture in forests
- Manufacture a waterproof skin based on origami pattern design iteration
- Code a six degree of freedom snake that uses biomimicry to traverse its environment

Climate Robotics and Expeditionary Science Technology (CREST) Research Lab **Needham, MA**
Underwater ROV Sept 2025 – Current
- Leading a team of 3 to design an underwater ROV using OnShape
- Performing CFD using Ansys to minimize energy consumption

Autonomous Kayak Restoration Jan 2025 – May 2025
- Restored and modernized a 10+ year old robotic kayak by redesigning its electro-mechanical system
- Developed and integrated a new sensor payload to enable autonomous coastal research

Olin Baja SAE (Building an off-road car) **Needham, MA**
Chassis Lead April 2025 - Current
- Organized onboarding program for 10+ new members, improving retention and CAD proficiency in OnShape
- Planned out fabrication cycle with other team leads, reducing expected build time by one semester
- Researching and designing a lighter, safer chassis for the next competition cycle

Chassis Engineer Aug 2024 – April 2025
- Designed and manufactured roll cage and safety-critical structures, compliant with SAE standards
- Presented designs to senior engineers, driving technical discussions and team collaboration

3D Scanner **Needham, MA**
Principles of Integrated Engineering Project Sept 2025
- Coded an Arduino to read distance from an infrared sensor mounted on a custom pan tilt mechanism, designed using SolidWorks.

Olin Public Interest Technology **Needham, MA**
Eduponics Sub-team Aug 2024 – May 2025
- Designed hydroponic units and plant housing for 40 plants using SolidWorks.
- Wired and coded sensors using Arduino to track water quality, nutrients, and light for plants to grow

SKILLS

- **Technical:** SolidWorks, MATLAB, OnShape, Python, JavaScript, Git, Arduino, Figma
- **Fabrication:** Wood tools, Mill, Lathe, 3D printing, Laser cutting, TIG Welding
- **Other:** Conversational Mandarin