

ETHAN KU

ethanhku@umich.edu
Ann Arbor, MI

734-707-5667

EDUCATION

University of Michigan

Ann Arbor, MI

College of Engineering

Graduation: May 2027

B.S.E. in Electrical Engineering

GPA: 3.706

Relevant coursework: Electronic Circuits, Programming and Intro Data Struct, Signals and Systems, Systems Design

Tools: Altium Designer, MATLAB, ROS2, CATIA, Office 365

Languages: C++, HTML, CSS

PROJECTS

University of Michigan Solar Car Team, *Microsystems Engineer*

Sep 2024 – Present

Supermodule Boards

- Routed 4 PCB boards in Altium Designer, unified 7 battery modules of 10 parallel and in-series cells each.
- Collaboration with High Voltage battery division lead on board design
- Race-critical task, allows 100% functionality of car battery, eliminated need for bus bars from previous design

Brake Light Board

- Routed a lighting board on Altium Designer to prototype multiple modules of a PCB board, controls lighting systems placed around the car, complete with an MCU, MOSFETs, CAN transceiver, regulator, and oscillator.
- Race-enabling task, ~50% increased efficiency by allowing front and back lighting control boards for race car.

Atombots Research Group – Z Lab, *Electronics Subteam*

Jan 2025 – Present

Sensor SLAM Integration with ROS2

- Integrating ROS2 and SLAM algorithm to connect sensors; Intel RealSense Depth Camera D435i, 4D LiDAR
- 100% new functionality of sensors on robot chassis for localized autonomous navigation and obstacle avoidance

Revolution Chinese Yoyo Team

Oct 2024 – Mar 2025

Glowsuits

- Redesigned 5 glowsuits: ~50% increased consistency during intensive dance routines; rerouted and soldered new electrical lighting wires to replace old, faulty wires; worn at Yotonix 2025 show for audience of over 300

EXPERIENCE

High School Honors Program, Michigan State University, East Lansing, MI

2023 summer

Research assistant in Engineering Prof. Hashsham's Lab. Project: *isothermal antimicrobial resistance gene chip*.

Gained wet lab experience; Research proposal and paper writing

Publication – D. T. Islam, E. Telli, N. Telli, H. Fatteh, I. Ma, **E. Ku**, S. Kotaru, W. Hanim, P. Hatzinger, B. Upham, M. Williams, G. Zylstra, D. Fennell, A. Cupples, S. Hashsham, "Targeted Sequencing Panel to Characterize the Respiration of Polychlorinated Dibenzo-p-dioxins and Dibenzofurans by Dehalococcoides mccartyi Strains," *Annual Superfund Research Project Meeting, Albuquerque, New Mexico, 2023*

Robotics and Genetics Research Intern, University of Michigan, Ann Arbor, MI

2022 summer

Research assistant in Prof. Fazeli's (Robotics, Engineering) and Prof. Cai's (Biophysics, Medical School) Labs.

Aided in paper revision, idea brainstorming. Worked on fruit flies and genetic research. Shadowing and lab assistant

EXTRACURRICULAR ACTIVITIES AND COMMUNITY SERVICE

University of Michigan Solar Car Team, *Microsystems division*

Sep 2024 - Present

Atombots Research Group – Z Lab, *Electronics Subteam*

Jan 2025 - Present

TASA – Taiwanese American Student Association, *EBoard - Outreach*

Sep 2024 - Present

Revolution Chinese Yoyo Team, *Performer*

Sep 2024 - Present

Chinese Yoyo Teacher at local Chinese school, *Teacher*

Sep 2022 - Present

Michigan Lion Dance, *Captain*

2020 - 2024

APEX, *President & Yoyo branch leader*

2020 - 2024

FASCA – Formosa Association of Student Cultural Ambassadors, *Vice President*

2020 - 2024

Huron High School Symphony Orchestra, *2nd Violins Section Leader*

2020 - 2024

ADDITIONAL

Languages: English (native), Chinese (native)

Hobbies: Chinese Yoyo, Violin, Table Tennis | Hiked over 5 national parks around the U.S.