

614 28th Ave E
Seattle, WA 98112
linkedin.com/in/kavidey

KAVI DEY

(412) 370-0256
kaviasher@gmail.com
github.com/kavidey

EDUCATION

Harvey Mudd College <ul style="list-style-type: none">B.S. in Computer Science, GPA: 3.8	Claremont, CA	Aug 2022 – May 2026
Seattle Academy High School <ul style="list-style-type: none">High School Diploma, GPA: 4.13, High Honor Roll	Seattle, WA	Jan 2019 – June 2022

EXPERIENCE

Music Information Retrieval Lab <ul style="list-style-type: none">Applied state of the art NLP techniques augmented with web scraping for zero shot composer classificationDeveloped novel online alignment algorithms for 3 way audio alignment of piano concertosLead data collection and created new audio tampering detection systems	Harvey Mudd College	2023
Analog Circuit Engineering Lab <ul style="list-style-type: none">Lead low level embedded development on SAM-4 MCU (SPI & Ethernet). Tested ultrasonic beam forming sonar	Harvey Mudd College	2023
Bee Lab <ul style="list-style-type: none">Built robust pollen detection system. Trained zero shot species classification (Siamese Net & ResNet transfer learning).Collaborated with professional biologists & developed public website to share the modelWrote article explaining the basics of siamese nets	Harvey Mudd College	2022
Human Centered Robotics Lab <ul style="list-style-type: none">Worked with Prof Maya Cakmak and Maria E. Cabrera to develop accessible robot tele-operation interfacesPerformed data analysis of user studies [1]. (2021)Led interface design and studies of interface alternatives. Co-first authored [2].Lead research in programming by demonstration & mentored 5 undergraduates across 3 different projects (2022)	University of Washington	2018; 2020 - 2022
Makeability Lab <ul style="list-style-type: none">Worked with Ather Sharif and Prof Jon Froehlich on Project Sidewalk (makeabilitylab.cs.washington.edu/project/sidewalk).Integrated deep learning curb-ramp detection into temporal tracking of sidewalk quality to help those with mobility impairments. [3]	University of Washington	2019
Intern <ul style="list-style-type: none">Programmed ultra-lightweight ML speech detection classifier for Character Animator, added to developer credits	Adobe	2018
MATE & FRC Robotics <ul style="list-style-type: none">FIRST FRC: '20-'22 Team Lead, '19 Code Lead MATE: '20-'22 Team Lead, '18-'19 Code + Electrical LeadCultivated diverse leaders and supportive culture, enhanced team documentation and communication strategiesSpearheaded 30+ person team in remote and in person settings (FRC)Developed multi-node realtime communication system and UI, led team effort to build underwater robot (MATE)	Seattle Academy High School	2019-2022

LANGUAGES AND TECHNOLOGIES

- Expert:** Python, Typescript, Svelte, Pytorch, Pandas/Matplotlib
- Intermediate:** THREE.js, C++, ROS, Unix, Compiler Design, Latex
- Engineering:** Schematic Capture, Board Layout, Altium, I2C, Trapezoidal and Field-Oriented ESC Design, PIC Programming, MOSFETs, Solidworks
- Advanced studies including:** Proof Based Real Analysis; Linear Algebra; Multivariable Calculus; Quantum Theory; Inverse Kinematics; Optimization; Machine Learning

PERSONAL PROJECTS

Electronic Speed Control (ESC) Design <ul style="list-style-type: none">Directed team (3 high school students) design of brushless motor ESCTaught college level electrical engineering and brushless motor control theory, schematic design, PCB design, micro-controller programming	Project Lead	2020 - 2023
PPE-Exchange <ul style="list-style-type: none">Orchestrated development of full stack website for Washington State Hospital Association to help hospitals (50+) exchange needed PPE during COVID-19Engineered custom PPE-Distribution algorithm with input from MultiCare	Lead Developer	Mar 2020 - June 2021

ADDITIONAL EXPERIENCE AND AWARDS

2022 **Harvey S. Mudd Merit Award**
2021 **World Championship Top 10 MATE Telepresence Competition**

2020 **Rookie All Star Award**, FRC: Redshift 8032

2020 **FRC Dean's List Semi-Finalist**

2018 **Regional Competition Top 5** MATE Pacific Northwest Region

- [1] Maria E. Cabrera et al. "An Exploration of Accessible Remote Tele-operation for Assistive Mobile Manipulators in the Home". In: *30th IEEE RO-MAN*. IEEE, '21, pp. 1202–1209. doi: 10.1109/RO-MAN50785.2021.9515511. URL: <https://doi.org/10.1109/RO-MAN50785.2021.9515511>.
- [2] Maria E. Cabrera* et al. "Cursor-based Robot Tele-manipulation through 2D-to-SE2 Interfaces". In: *IEEE/RSJ IROS*. IEEE, '21, pp. 4230–4237. doi: 10.1109/IROS51168.2021.9636008. URL: <https://doi.org/10.1109/IROS51168.2021.9636008>.
- [3] Ather Sharif et al. "Experimental Crowd+AI Approaches to Track Accessibility Features in Sidewalk Intersections Over Time". In: *ASSETS*. Ed. by Jonathan Lazar, Jinjuan Heidi Feng, and Faustina Hwang. ACM, '21, 65:1–65:5. doi: 10.1145/3441852.3476549. URL: <https://doi.org/10.1145/3441852.3476549>.