

# Abhay Harpalani

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## EDUCATION

### University of Illinois Urbana-Champaign

*Bachelor of Science in Computer Engineering*

*Dean's List (Top 20% of class)*

*James Scholar - University Honors Program*

Urbana, IL

Class of 2027

GPA: 3.9

## EXPERIENCE

### Project Lead

*Vex Robotics Club*

Sept. 2023 - Present

Urbana, IL

- Programmed an Arduino-based drone using C++
- Used control systems algorithms such as PID and Kalman Filters to gain more accurate measurements
- Implementing a VSLAM algorithm to take camera input and generate a 3D model

### Web Designer and Lab Monitor

*UIUC OpenLab Makerspace*

Oct. 2023 – Present

Urbana, IL

- Redesigned website with more modern and responsive design, improving experience for OpenLab users
- Helping users with OpenLab equipment as a lab monitor
- Used Adobe Creative Suite to create new advertising posters, electronic billboards, and website designs

### Automation Intern

*Lawrence Berkeley National Laboratory*

June 2022 - Feb. 2023

Berkeley, CA

- Developed automation for Google Apps and Smartsheets to streamline onboarding and project updates for clients
- Used Google Apps APIs in Python and JavaScript to update project databases and send emails to managers

### Project Manager

*Eagle Scout Project*

Aug. 2019 – Jan. 2022

Fremont, CA

- Led the design, approval, and construction of an arbor and a planter for the Quarry Lakes Demonstration Garden
- Supervised 15 scouts and adults to coordinate material delivery, unloading, and construction efforts
- Successfully achieved rank of Eagle Scout

### Student Researcher

*Aspiring Scholars Directed Research Program*

May 2020 – Sept. 2020

Fremont, CA

- Analyzed text from the Voynich Manuscript, a codex written in an unknown language
- Developed frequency translation algorithm to assist with translating text
- Published research paper in the ASDRP Communications Journal

## PROJECTS

### Analog Synthesizer | *PCB and Circuit Design, Analog Electronics, Python*

Oct. 2022 – June 2023

- Designed, tested, and built an analog synthesizer which takes input from a digital keyboard
- Utilized concepts in analog signal processing, circuit design, and Raspberry Pi programming in Python

## TECHNICAL SKILLS

**Languages:** Python, C/C++, JavaScript, Java, HTML/CSS

**Developer Tools:** Git, VS Code, PyCharm

**Libraries:** NumPy, Pillow, pthreads

**Programs:** Ghidra, Fusion 360, Adobe Illustrator, Photoshop

**Clubs:** Eta Kappa Nu (HKN), VEX Robotics, SIGPwny Cybersecurity Club, Synton Amateur Radio Club, oSTEM

**Other:** CAD Design, Soldering, Graphic Design