Abhay Harpalani

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EDUCATION

University of Illinois Urbana-Champaign — Urbana, IL
Bachelor of Science in Computer Engineering — Class of 2027
Dean's List (Top 20% of class) — GPA: 3.9
James Scholar - University Honors Program
Courses: Data Structures & Algorithms

EXPERIENCE

Project Lead — Sept. 2023 - Present
Vex Robotics Club — *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 — Oct. 2023 – Present
UIUC OpenLab Makerspace — *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 — June 2022 - Feb. 2023
Lawrence Berkeley National Laboratory — *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 — Aug. 2019 – Jan. 2022
Eagle Scout Project — *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 — May 2020 – Sept. 2020
Aspiring Scholars Directed Research Program — *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, Go, 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