KOMAL KACKAR

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EDUCATION

University of Southern California, Los Angeles   Los Angeles, California
Major: Electrical and Computer Engineering, Minor: Designing Products   May 2026
- GPA: 3.588
- Highlighted Courses: Introduction to Computer Programming for Electrical Engineers, Applied Linear Algebra for Engineering, Introduction to Embedded Systems, Distributed Systems and the Internet of Things

SKILLS

- C++, Python, Java, Arduino, Raspberry Pi

EXPERIENCE

Center for Undergraduate Research in Viterbi Engineering   University of Southern California
Researcher under Sandeep Gupta   September 2022-Present
- Researched how maze solving algorithms can be applied to real world path finding robots
- Grew in proficiency of programming in languages like C++ through coding maze solving algorithm such as A*
- Developing a way to encode a maze into a boolean satisfiability problem for an SAT solver (minisat) and methods to check validity of solutions and generate new solutions

MAKERS   University of Southern California
Club Member   January 2023-Present
- Collaborate with other engineering students to bring student led projects and ideas to life
- Growing in the ability to work in a team of engineers with varying skill sets and knowledge as well as the ability to work through unfamiliar challenges
- Utilized several components involved with embedded and distributed systems such as a mux chip, an ESP 8266, different types of Arduinos, electromagnets, a Raspberry Pi, electromagnets, and more

Rose Hulman Institute of Technology   Terre Haute, Indiana
Project Catapult   June 2021-July 2021
- Collaborated with classmates to program a robot built with Arduino components in C++ to move autonomously through a maze
- Won first place in a race judged by time. accuracy, and error rate

STEMed Labs   Online
Research Participant   October 2018-December 2018
- Worked with teens across the U.S.A. under MIT graduates to find viable solutions to the problem of energy scalability
- Presented weekly updates on a personal solution backed by research and scientific findings

EXTRA CURRICULAR ACTIVITIES

ASIAN PACIFIC AMERICAN STUDENT ASSEMBLY   University of Southern California
Co-Advocacy Chair   September 2022-Present
- Started as intern and worked alongside board members to manage organizations, plan events, lead my own passion project surrounding South Asian media
- Currently spearheading advocacy related events and projects to better engage student body and support local communities

Women's and Nonbinary Ultimate Frisbee Team   University of Southern California
Recruitment Chair   August 2022-Present
- Playing and traveling with a tight-knit group of women and nonbinary players to play ultimate frisbee
- Working to empower new players to branch out of their comfort zone in order to have a safe and welcoming space that also serves as an outlet for university

PERSONAL INTERESTS

- Tinkering with an Arduino for personal projects
- Started with making LEDs blink to the tune of Bee Gees songs, and moved onto more complex projects like a plant humidity detector
- Built a personal VEX robot after attending a VEX Robotics event at Google