

# Sushrut Warekar

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## EDUCATION

### University of Illinois at Urbana-Champaign

Bachelor of Science in Computer Engineering | Physics Minor | Grainger James Scholar

Expected May 2027

#### Relevant Coursework & Skills

GPA 3.94/4.00

A/D Signal Processing, Data Structures & Algorithms, Probability with Engr Applications, Discrete Structures, Machine Learning

C/C++, Python, React.js, Node.js, PyTorch, NumPy, LC-3 Assembly, SystemVerilog, Vivado, Vitis, Microprocessor Design, FPGA

## EXPERIENCE

### UIUC Center for Academic Resources in Engineering | CARE Tutor

August 2024 – Present

- Provide academic support and guidance to engineering students for STEM courses, helping build and instill a strong understanding of course material and improving problem-solving skills
- Assist students in developing effective study strategies and time management techniques to navigate a fast-paced engineering curriculum and maintain academic performance
- Contribute to the CARE program's mission by participating in drop-in tutoring sessions and offering personalized, step-by-step support to address individual student needs

### UIUC Department of Mathematics | Teaching Assistant

January 2025 – Present

- Guide students during Python-based Linear Algebra labs, focusing on numpy, pandas, scipy, and code debugging
- Hold weekly office hours and monitor Campuswire to provide timely academic support
- Facilitate discussion sections and ensure students' work upholds academic integrity standards

### Security and Privacy Research at Illinois | Research Assistant

Aug 2025 – Present

- Designed and deployed agentic browser detection methodology by analyzing AI benchmarks and behavioral fingerprints
- Structured and populated a single-domain, multi-step test environment across E-commerce, CMS, and Git domains to isolate and capture clean agent-versus-human action traces

## PROJECTS

### HDMI Text Mode Graphics Controller | SystemVerilog, C, AXI4, FPGA

- Designed a memory-mapped VGA/HDMI IP on Spartan-7 FPGA, interfacing with MicroBlaze processor via AXI4-Lite protocol
- Developed a C-based device driver to manage register interactions, color palette mapping, and dynamic text rendering

### SLC-3 Microprocessor Design | SystemVerilog, LC-3 ISA

- Designed 16-bit Von Neumann microprocessor with custom ISA, featuring a control FSM without memory handshake signals
- Integrated a complete datapath including register files, ALU, and units for arithmetic, logical, and control flow instructions

### Spotify Album Finder | React, Vite, React Bootstrap, REST API

- Engineered a responsive web app using React and Vite, allowing users to explore an artist's complete discography
- Implemented React Hooks and React Bootstrap to create an adaptive UI, capture user input, and dynamically render results

## LEADERSHIP & ACTIVITIES

### Ghungroo Dance Company | Treasurer, Member since 2024

May 2025 – Present

- Manage team finances including the collection and allocation of funds, maintaining accurate financial records, preparing budgets, reporting on the team's financial status, and ensuring the team adheres to university and state regulations
- Assist with fundraising efforts to ensure the team has the necessary funds to operate and achieve its goals
- Contribute to planning and executing an annual showcase, demonstrating commitment, leadership, and organization

### Eta Kappa Nu ECE Honors Society, IEEE | Member

August 2024 – Present

- Organize exam reviews, tech talks, and social events to support academic and career development for ECE students
- Provide peer tutoring and lead exam review sessions for ECE courses, contributing over 10 hours of service per semester
- Engage in mentorship programs and networking events to foster connections with industry professionals and alumni

### Illini Solar Car | Electronics Team Member

August 2023 – May 2024

- Developed and improved a solar-powered car for the 2024 American Solar Challenge
- Aided in the design, assembly, and testing of circuit boards to refine telemetry functions

### Sigma Phi Epsilon | Recruitment Committee Member

August 2023 – May 2024

- Contributed to a 20% membership increase by supporting recruitment efforts and fostering community engagement
- Organized and led community events to boost fraternity visibility, creating impactful experiences that strengthened relationships with students and enhanced campus presence

## LANGUAGES

English (Fluent) | Spanish (Advanced) | Marathi (Native) | Hindi (Native)