

# Kai Sprunger

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## EDUCATION

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### University of Central Florida, Burnett Honors College

Bachelor of Science in Computer Science, GPA: 3.9

Orlando, FL

Expected graduation: May 2028

## EXPERIENCE

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### Software Engineer Intern

May 2025 – Aug. 2025

#### NVIDIA

Santa Clara, California

- Contributed to the LibOS Team and Core RISC-V Team in the GPU Software Resource Management Department.
- Increased the code coverage from **77.7% to 97.1%** for a **RISC-V OS** library critical to dGPU and Tegra.
- Built microkernel-level tests to validate edge cases and prevent regressions across **230 functions**.
- Revealed **8 critical inter-process communication and thread local storage bugs** and pushed **4 fixes** to prod.

### Software Chair

April 2025 – Present

#### Institute of Electrical and Electronics Engineers

Orlando, FL

- Founded and led **15-developer team** across **3 projects (Club Website, Discord Bot, Resume Website)**, increasing **development output by 600%** through establishing DevOps pipelines, GitHub workflows, and ticketing systems.
- Developed and deployed Club Website with **React, Tailwind CSS, MongoDB, Next, and Vercel**, delivering **6 responsive pages** with real-time event and project analytics, ultimately achieving **100%+ user satisfaction**.
- Built a secure authentication system, utilizing **NextAuth, Discord OAuth, Drizzle ORM, tRPC, and Neon PostgreSQL** to integrate **5 member routers**, middleware, and auth config.

### Hackathon Organizer

December 2024 – Present

#### Knight Hacks

Orlando, FL

- Co-led planning and execution of **1,000+ attendee hackathon**, coordinating logistics across **60 events and 30 rooms**.
- Directed and trained **30 volunteers**, improving **operations by 167%** through optimized delegation and documentation.
- Secured **\$5,000 in sponsorships**, supporting **\$65,000+ budget for prizes, merch, food, and events**.
- Judged **16 projects**, supported **15 events**, and contributed to itinerary and slide decks, increasing event **efficacy by 5%**.

## PROJECTS

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### CappuConnect (STEM Connect 2025 Winner) | *MongoDB, Next, React, Tailwind CSS, Puppeteer* September 2025

- **Winner of Best Non-AI Hack**: Networking app with vector-based event suggestions driven by connections.
- Developed authentication with NextAuth (registration, sign-in/out), supporting **164 seeded and real accounts**.
- Established **MongoDB schema**, implementing **8 API CRUD routes** with Mongoose for events and members.
- Developed event filtering system for **544 web-scraped events**, integrating vector-based similarity calculations to recommend events, highlight matched attendees, and display relevant tags.

### Tariffix (Bitcamp 2025 Winner) | *MongoDB, Cheerio, Gemini, React, Tailwind CSS, Next, Vite* April 2025

- **Winner of MLH Best Use of MongoDB**: Extension/API showing tariff-affected prices and scanning HTS codes.
- Deployed a **tariff rate API on MongoDB** and developed **REST API routes with Express and Mongoose** to ensure efficient and scalable data retrieval.
- Built **React and Tailwind CSS frontend** to visualize JSON data and integrated Gemini LLM API for analysis.

### kmodo (Project Launch 2025 Winner) | *React, Tailwind CSS, PostgreSQL, Drizzle, tRPC, Coolify* April 2025

- **1st Place Winner**: Enables users to organize hackathons, apply to events, connect with companies, and access resources.
- Led frontend development with **React and Tailwind CSS** for **3 key pages (Landing, Events, Resources)** and **3 reusable components (Navbar, Footer, Sponsor Dashboard)**.
- Built tag-based and keyword event search system using **Drizzle ORM and tRPC to query PostgreSQL database**.

### SprintScout (Knighthacks 2024 Winner) | *React, Tailwind CSS, OpenCV, MongoDB, Whisper* October 2024

- **Winner of ServiceNow Challenge and MLH Best Use of MongoDB**: AI-powered, features a vector search accelerator recommendation engine and transcription-to-visuals tool.
- Built dynamic frontend with **React and Tailwind CSS**, supporting user submissions and interactive grid displays.
- Designed a harmonious **UI/UX with Figma and Canva**, effectively bridging contrasting functionalities.

## TECHNICAL SKILLS

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**Programming and HDL Languages:** JavaScript, TypeScript, Java, Python, C, C++, C#, SQL, HTML/CSS, Verilog  
**Dev Tools:** Visual Studio Code, GitHub, Perforce, Xcode, Vercel, Figma, Docker, Jira, Unity, Jupyter Notebook  
**Libraries/Frameworks:** React, Tailwind CSS, PostgreSQL, MongoDB, Express, Node, Next, Vite, Gemini API, tRPC, Drizzle, OpenCV, Pandas, PyTorch, NumPy, Matplotlib, sklearn, Google ADK, Selenium, Playwright, FastAPI