

# Daniel J Efres

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## EDUCATION

### University of Central Florida

Bachelor of Science in Computer Science, Minor in Mathematics

Orlando, FL

Expected Grad: May 2027

## EXPERIENCE

### Secretary

Jan 2025 – Present

*Knight Hacks*

*Orlando, FL*

- Coordinated onboarding and management for **60+** new members and managed logistics for hackathons, workshops, and strategic meetings with UCF administration.
- Secured \$30K+ in seed sponsorships from **F500 Companies** five months ahead of **Knight Hacks VIII**.
- Orchestrated **GemiKnights**, the organization's first summer hackathon with **200+** attendees and **70+** projects submitted.

### Software Engineering Intern

May 2025 – Aug 2025

*BNY*

*Lake Mary, FL*

- Spearheaded a greenfield enterprise API initiative as a solo developer, architecting and implementing RESTful services in **Java Spring Boot** affecting **500+** employees, reducing manual data processing time by **89.5%**.
- Designed and deployed scalable CI/CD pipelines across **DEV**, **QA**, and **PROD** environments using **Docker**, **Google App Engine**, and **F5** load balancing, accelerating release cycles by **3×** and reducing deployment failures by **100%**.
- Integrated with legacy **Oracle** databases through schema discovery and reverse engineering, delivering **4+ production-ready endpoints** to firm-wide production with **zero post-release defects** and improving data retrieval speeds by **80%**.
- Achieved **100% unit and integration test coverage** using **JUnit**, **Mockito**, and **H2**, implementing containerized secret management that eliminated **15+ hours** of weekly manual security audits across development teams.

### Software Engineering Intern

Feb 2025 – May 2025

*UCF Center for Distributed Learning*

*Orlando, FL*

- Optimized **React/Django** web applications serving **60,000+** users by refactoring database queries and containerizing services with **Docker**.
- Developed the **Intelligent Course Search LTI** using **PostgreSQL** vector embeddings and integrated local LLM inference via **Ollama** and **AWS Bedrock**.
- Reduced LLM latency by **20%** and AWS costs by **15%** through Docker configuration tuning and pipeline optimization.

## PROJECTS

### Riffs | React, Next.js, TypeScript, Tailwind CSS, Pitchy, FL Studio

Apr 2025 – May 2025

- Won **1<sup>st</sup> place** for **Best App** at **Bitcamp 2025**.
- Created a music tool which converts hummed melodies to editable guitar tabs via pitch detection.
- Integrated a real-time guitar sample playback with tempo control using **Pitchy** and **FL Studio**, and developed a game-like UI overlay with camera-driven animations to enhance interactivity and learning by **70%** using it.

### SightSync | Python, OpenCV, MediaPipe, PyAutoGUI, Pygame

Apr 2025 – May 2025

- Built a system-level tool for hands-free control of the OS via **eye tracking** and **voice commands**.
- Mapped head and eye movements to cursor with **90%** accuracy using **MediaPipe** and **OpenCV**.
- Integrated **PyAutoGUI** for OS-level mouse and keyboard commands used with one's voice.

### Kmodo | TypeScript, React, Next.js, Tailwind CSS, Python, tRPC, Drizzle, PostgreSQL

Jan 2025 – June 2025

- Developed a hackathon management platform with role-based authentication for secure access.
- Architected scalable database schemas with **Drizzle** and **PostgreSQL** for high-volume data.
- Enhanced UI/UX with responsive design principles, improving accessibility and engagement.

## TECHNICAL SKILLS

**Programming Languages:** Python, C, C++, C#, Java, HTML, CSS, JavaScript, TypeScript, Kotlin, SQL

**Frameworks/Libraries:** React, Angular, React Native, Django, Tailwind CSS, Node.js, Next.js, NextAuth, tRPC, Prisma, Drizzle, OpenCV, MediaPipe, PyAutoGUI, numpy, PyTorch, Ollama, AWS Bedrock, pgvector, Tkinter, Pygame

**Developer Tools/Platforms:** Git, GitHub, Docker, Kubernetes, MacOS, Linux, Windows, PostgreSQL, SQLite, Google App Engine, AWS, VS Code, Vercel, Blender, Onshape, Coolify, F5 Load Balancer, npnm, Bun, Node.js, JUnit, Mockito, H2