

Daniel Hernandez

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Education

University of Central Florida

Bachelor of Science in Computer Science. GPA: 3.9/4.0

Orlando, FL

Expected Fall 2026

Relevant Coursework: Data Structures & Algorithms, Systems Software, Object-Oriented Software Development, Computer Networks, Discrete Structures, Security in Computing, Statistical Methods

University of Florida

Computer Science coursework (transferred to UCF)

Gainesville, FL

Jun 2023 – Jul 2024

Experience

Functional Materials Studio, NanoScience Technology Center – UCF

May 2025 – Present

Undergraduate Researcher

- Developed control firmware (Arduino, ESP32) and Python serial-automation scripts, including custom PCB design, to automate laboratory instrumentation and data acquisition
- Applied convolutional neural networks and Python data-processing workflows to imaging, analysis, and materials characterization research

Radiation Effects Exploration Laboratory, UCF ECE

Jan 2025 – May 2025

Undergraduate Research Assistant

- Built and maintained the lab website (HTML, CSS, WordPress) to present research and lab information
- Developed Python data-processing and visualization tools to make radiation-measurement results easier to analyze and interpret

Technical Projects

Webster's Dictionary Online — React, Express.js, MySQL, eXist-DB, Docker

2025 – Present

- Built a full-stack digitized-dictionary web application serving 125,500+ entries across ~2,400 pages, with a React frontend and Express.js REST API over MySQL and an eXist-DB XML store
- Served as Product Owner and sponsor liaison for a multi-developer team; containerized the stack with Docker, deployed internally with production rollout in progress

Event Organizer Application — Express.js, React, MongoDB, Google Maps API

Aug 2024 – Present

- Built an Express.js backend REST API for event discovery, posting, and check-in within a collaborative multi-developer team repository
- Integrated Google Maps API for location-based event search, visualization, and nearby event discovery

V-ProBE — Deep-Learning Image Reconstruction System — Python, PyTorch

2025 – Present

- Created V-ProBE, a novel deep-learning system (PyTorch) that reconstructs sharp 3D images from blurry microscopy scans with no labeled training data; first-author paper under review

Publications

- Hernandez, D. (co-first author), et al. “Laser Tomographic Imaging of CVD Diamond Defects via Deep Neural Networks.” SSRN preprint, 2026 (under review).
- Wu, T., Wara, T. U., Hernandez, D., & Lei, S. “Universal Latent Homeomorphic Manifolds.” arXiv:2601.09025, 2026.
- Murukeshan, J., et al. (incl. Hernandez, D.). “Scalable Fabrication of Diamond Nanowires.” In revision, 2026.

Technical Skills

Languages: Java, Python, C++, C, C#, JavaScript, TypeScript, SQL

Backend, Web & Databases: Node.js, Express.js, React, Next.js, REST APIs; MySQL, MongoDB, eXist-DB (XML); Git, Docker, Linux

Cloud, Embedded & ML: AWS, GCP, Azure, Oracle Cloud, DigitalOcean, CI/CD; Arduino, ESP32, PCB design; PyTorch, TensorFlow, OpenCV

Certifications & Languages: AWS Academy Cloud Security Foundations (2026); TestOut CyberDefense Pro (2025); Spanish (Fluent, bilingual)