Brendan Rodriguez

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EDUCATION

University of Central Florida – UCF | B.S. Computer Engineering | May 2026 | Orlando, FL
Hispanic Heritage Foundation Scholar | Coursework: Networking, IoT Systems Design (RTOS, BLE, Cloud), Data Structures & Algorithms

TECHNICAL SKILLS

Security: Data-Flow Analysis, Hybrid-Cloud Security (AWS, Azure), Identity & Access Management (IAM), Security Controls & Configuration Review, NIST RMF, Post-Quantum Cryptography (PQC), Hardware Security & Side-Channel Analysis, Correlation Power Analysis (CPA)
Cloud/Platform: AWS (Lambda, S3, WAF, CloudFront, CloudWatch), Azure, Docker, Terraform
Programming: Python, Java, C, JavaScript, Bash/shell scripting
OS/Tools: Linux (Ubuntu, Kali), Git/GitLab, CI/CD, Agile (Jira)
Networking: TCP/IP, UDP, BLE, Wi-Fi, UART/SPI/I2C, RTOS (FreeRTOS)
Certifications: AWS Builder (2026), Terraform on AWS (2023), Hacking for Defense (2023), Principal Investigators & Research (2022)

EXPERIENCE

Senior Capstone Project Manager – Lockheed Martin, Orlando, FL **Aug 2025 – May 2026**
- Ensured only authorized ground-control components can issue flight or mission commands.
- Preserved integrity of mission, command, position, and telemetry data.
- Implemented secure UDP/TCP MAVLink communications between distributed components on Ubuntu Linux.
- Applied Agile practices in Jira to coordinate a 6-person cross-functional team through sprint cycles.

Cybersecurity Architect Intern – Duke Energy, Charlotte, NC **May 2024 – Aug 2024**
- Evaluated on-prem, AWS and Azure environments to map data flows and security controls across a hybrid cloud landscape.
- Analyzed cross-business-unit workflows and identified a 32.6% process bottleneck to reduce backlog review pipelines.
- Demonstrated forward-thinking PQC initiative and emerging cryptographic threat implications to executive stakeholders.
- Coordinated cross-site tours of on-prem data centers and critical infrastructure facilities to support security architecture review efforts.

Undergraduate Researcher – DRACO Lab – UCF, Orlando, FL **Aug 2024 – May 2026**
- Performed hands-on hardware exploitation using ChipWhisperer to extract cryptographic keys from embedded targets.
- Detected workload anomalies across compute architectures using power and timing signals.
- Utilized automated pipelines (perf, NumPy, Pandas) for feature extraction, anomaly detection, and integrating benchmark results.
- Applied ML/AI techniques (HuggingFace models) to classify security-relevant behavioral signals from hardware performance counters.

Software Engineer Intern – Duke Energy, Charlotte, NC **May 2023 – Aug 2023**
- Built RESTful API integrations between internal business applications.
- Designed CI/CD workflows using Git-based tooling with automated testing and repeatable deployments.
- Provisioned Infrastructure as Code to configure AWS resources.
- Implemented security group configurations and Python scripts for permission management.

Ingest Technician (contract) – Catapult, Orlando, FL **Dec 2021 – Nov 2022**
- Operated professional ingest-software to capture live events and tape-based content into digital workflows.
- Monitored jobs end-to-end to verify successful transfer and data integrity.
- Ingested incoming media assets to ensure traceable records from initial capture to the Storage Area Network.

IT & Engineering Technician – PGA National Resort, Palm Beach Gardens, FL **Jan 2017 – Dec 2021**
- Monitored Windows servers, Active Directory, VOIP, and endpoint log, resolving hardware, software, and network incidents.
- Managed user accounts, security groups, and permission, enforcing role-based access control across critical resort systems.
- Led restoration and support of INNCOM building system on a private network to quickly restore service and minimize downtime.

PROJECTS

ChipWhisperer Nano – AES-128 Side-Channel Security Assessment **Summer 2026**
- Examined power traces to identify instruction and data-dependent leakage in embedded targets.
- Applied Sum of Absolute Differences and Dynamic Time Warping methods to resynchronize traces affects by timing variation and jitter.
- Evaluated CPA workflows from Advanced Encryption Standard (AES), connecting measured leakage to key-byte hypothesis ranking.