Mario Calderon

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Education

University of Central Florida (GPA: 3.64) Graduation: Dec, 2026

B.S. in Computer Science; Relevant Coursework: Data Structures & Algorithms, Discrete Math, Software Engineering

Technical Skills

Programming Languages: C/C++, Python, JavaScript/TypeScript, C#, SQL, HTML/CSS

Frameworks & Technologies: React, Node.js, TensorFlow, VB.NET, REST APIs, Microservices

Tools & Platforms: Git, Docker, AWS (EC2, S3, RDS, Lambda), CI/CD, Agile/Scrum

Database & Backend: SQL Server, Relational Databases, Performance Optimization, ETL Processes

Projects

Parking Management System (React, Node.js, AWS, SQL) Aug. 2024 – Dec. 2024

- Delivered 40% reduction in campus parking search times as measured by user satisfaction surveys from 500+ students, by architecting a full-stack web application with React frontend and Node.js backend that tracked 1,200 parking spaces across 15 campus lots.
- Enhanced application performance by 25% as measured by load testing benchmarks, by optimizing 20+ database queries and implementing efficient caching strategies that handled 50,000+ daily transactions.
- Established 100% system reliability as measured by AWS CloudWatch monitoring, by deploying scalable infrastructure using EC2 auto-scaling and RDS multi-AZ configuration serving 2,000+ concurrent users during peak hours.

Baseball Analytics Platform (Python, AWS, REST APIs) Jan. 2025 – Apr. 2025

- Engineered data processing pipeline handling 200,000+ game records as measured by ingestion throughput logs, by developing scalable Python application that integrated Baseball Reference API with 99.2% data accuracy for 40,000+ player profiles.
- Boosted query performance by 60% as measured by response time benchmarks, by implementing advanced indexing algorithms and database optimization techniques that reduced average API response from 5.2 to 2.1 seconds.
- Sustained 99.9% application uptime as measured by monitoring dashboards, by deploying fault-tolerant cloud architecture using AWS load balancers and automated backup systems supporting 150+ concurrent analytical queries.

Database Monitoring Application (SQL Server, Python, Automation) May 2025 – Aug. 2025

- Reduced infrastructure costs by 50% as measured by quarterly spending reports, by developing automated monitoring system with Python scripts that identified storage inefficiencies across 25 production databases and optimized resource allocation.
- Prevented 95% of potential system outages as measured by incident tracking metrics, by creating predictive algorithms that monitored 200+ database tables and generated real-time alerts for 15+ fast-growing datasets.
- Streamlined monitoring workflows by 40% as measured by manual task reduction, by building automated reporting tools that processed 10,000+ daily metrics and delivered actionable insights to 8 database administrators.

Experience

Software Development Intern May 2025 – Aug. 2025

Frontline Insurance *Lake Mary, FL*

- Automated database operations achieving 100% monitoring accuracy as measured by audit compliance reports, by developing 5 custom SQL Server applications that tracked data growth patterns across 30+ production systems and implemented intelligent data archival for 2.5 million+ records.
- Optimized system performance by 35% as measured by storage utilization metrics, by analyzing usage patterns across 50+ databases and rebuilding 200+ indexes through automated scripts, resulting in 500GB storage savings and $15,000 monthly cost reduction.
- Strengthened data pipeline reliability by 50% as measured by ETL success rates, by refactoring 12 integration processes and resolving 25+ communication bottlenecks, reducing system warnings from 40 to 12 per week across production environments.

Teaching Assistant (Data Structures & Algorithms) Dec. 2024 – Present

University of Central Florida *Orlando, FL*

- Elevated student success rates by 15% as measured by semester grade distributions, by creating 25+ interactive coding exercises and providing personalized debugging mentorship to 80+ students across 3 course sections.
- Accelerated student coding proficiency by 30% as measured by assignment completion metrics, by expanding the learning platform with 50+ algorithmic practice problems and conducting 40+ hours of weekly coding workshops.

Software Engineering Peer Tutor (SARC) Dec. 2024 – Present

University of Central Florida *Orlando, FL*

- Propelled academic performance improvements of one full letter grade as measured by before/after assessments across 60+ students, by delivering 120+ personalized C programming sessions and providing expert debugging assistance for complex software projects.
- Advanced problem-solving capabilities by 40% as measured by coding challenge performance, by mentoring students through 300+ algorithmic problems during 80+ tutoring sessions, emphasizing code optimization and debugging methodologies.