JOSHUA MERCADO

Software Engineer | Backend, Cloud, Data & AI/ML Systems
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Education

University of Florida **Gainesville, Florida**
Bachelor of Science in Computer Science | GPA: 4.0 / 4.0 December 2027

Relevant Coursework: Data Structures & Algorithms; Algorithm Abstraction & Design; Operating Systems; Database Systems; Software Engineering; Natural Language Processing; Artificial Intelligence & Heuristics; Computational Linear Algebra

Professional Experience

Amazon Web Services (AWS) | Solutions Architect AI/ML Intern **Arlington, Virginia**
May 2026 - August 2026 Internship

- Architected and engineered the **Agent DataSphere MVP**, enabling agents to discover, retrieve, reason over, and act on enterprise data using RAG, semantic search, knowledge graphs, and orchestration.
- Built a custom **Orchestrator Agent** in **Python** using **Amazon Bedrock** and **Anthropic Claude** with tool calling, conversation memory, semantic retrieval, and deterministic fallback execution.
- Built **FastAPI** backend services, **REST APIs**, and a **React** web application for semantic search, knowledge graph management, document ingestion, generative AI for business intelligence reporting, and health monitoring.
- Built distributed RAG and semantic indexing pipelines with **S3 Vector Stores** and metadata catalogs.
- Designed and implemented **AWS Neptune** knowledge graph architectures supporting multi-hop reasoning, agent memory, contextual retrieval, and enterprise AI workflows.
- Developed **MCP** and **A2A** integrations connecting AI agents, enterprise applications, APIs, and distributed data platforms.
- Containerized **FastAPI** and **React** services with **Docker**, stored images in **Amazon ECR**, and deployed to **Amazon ECS** on **AWS Fargate** with **CloudWatch** logging and monitoring.

Lantern Games Studio | Founder & Lead Software Engineer **Florida, United States**
January 2026 - Present Self-employed

- Founded Lantern Games Studio and built **Game Shop Simulator**, a 1-8 player cooperative business simulation game targeting Steam for Windows and macOS.
- Lead software architecture and hands-on **C#** engineering in **Unity 6** with URP and **Netcode for GameObjects**, designing PlayerController, NPC behavior, **multiplayer networking**, and InteractionSystem.
- Manage the full **software development lifecycle**, including the Game Design Document, GitHub source control, technical documentation, testing priorities, and release planning.
- Onboard and lead a **cross-functional contract team** of artists and designers while managing budgeting, production priorities, and key product decisions.

TelyRx Pharmaceuticals | Senior Software Engineer, Infrastructure **Clearwater, Florida**
November 2024 - May 2025 Startup

- Served as founding infrastructure engineer at a rapidly scaling **pharmacy startup** that went public in 2026 (TELYF), establishing cloud, DevOps, security, and internal platform foundations.
- Built and operated AWS infrastructure for the **ecommerce pharmacy platform**, managing VPCs, EC2, IAM roles, and security groups to support **HIPAA** and **PCI DSS** requirements.
- Designed the platform's **Infrastructure as Code** layer in **AWS CloudFormation**, making every environment a reproducible, audit-ready stack under version control and eliminating manual provisioning and configuration drift.
- Developed **CI/CD** and cloud automation with **Python**, **PowerShell**, and **Bash**, improving deployment consistency and operational efficiency across production and staging environments.
- Implemented **observability tools** including **Datadog APM**, logs, metrics, dashboards, anomaly detection, and proactive alerting across production and staging environments.
- Hired and mentored a team of **systems and software engineers**, building the company's in-house engineering function.
- Administered **Microsoft 365**, Entra ID, Intune, Defender, and Confluence; enforced MFA, RBAC, conditional access, and endpoint-security controls.

UF Health | Technical Project Manager **Gainesville, Florida**
December 2024 - May 2026 Full-time

- Led large-scale technical infrastructure programs across **100+ facilities** using Agile methodologies in a 24/7 mission-critical healthcare environment.
- Drove infrastructure strategy for new facilities, expansions, and mergers and acquisitions, coordinating migrations of networks, devices, systems, and data to UF Health standards.
- Led the enterprise **Zebra Modernization Program**, standardizing **2,500+** mobile devices on a unified OS, application stack, security baseline, and MDM platform.
- Directed cross-functional teams across engineering, security, networking, AV, facilities, and clinical operations while maintaining **HIPAA** and information-security compliance.

OnSpot Dermatology | Network & Systems Engineer **Orlando, Florida**
June 2023 - November 2024 Full-time

- Engineered and supported production systems across **10+ clinics**, labs, and surgical centers, spanning application, network, device, and infrastructure services.
- Eliminated **100%** of manual work in targeted network and IT workflows using **Python**, **JavaScript**, and **Node.js** automation.
- Built **API integrations** and Jira Service Management automations, accelerating triage and resolution by **50%**.
- Implemented resilient connectivity with **HPE/Aruba** switching, firewalls, routers, load balancers, and Cradlepoint dual-carrier ISP failover.
- Led the secure migration of years of critical data to a new platform.

Florida Department of Transportation | Technical Support Engineer II (Contract) **Orlando, Florida**
June 2022 - June 2023 Full-time

- Achieved **100%** ticketing SLA compliance while supporting a **10,000+** user enterprise environment.
- Supported a four-host **VMware ESXi** cluster, Active Directory, GPOs, VM provisioning, monitoring, recovery, and the SCCM-to-MECM migration.
- Led **150 SpaceX Starlink deployments** during Hurricanes Ian and Nicole, restoring critical communications in impacted areas.
- Automated workflows with **PowerShell**, increasing departmental efficiency by **50%**+.

Technical Skills

Programming: Python, C#, Java, C++, JavaScript, TypeScript, SQL, Go, Rust, Bash, PowerShell, Node.js, REST APIs, GraphQL

Frameworks & Platforms: FastAPI, React, Unity 6, URP, Netcode for GameObjects

AI/ML Engineering: Agentic AI, LLM agents, tool calling, Amazon Bedrock, Anthropic Claude, OpenAI GPT, Google Gemini, RAG (retrieval-augmented generation), semantic search, knowledge graphs, vector stores, MCP, A2A, NVIDIA CUDA

Data Engineering: Snowflake, SQL, ETL/ELT, data pipelines, Big Data, data warehousing, data modeling, dimensional modeling, star schemas, data quality, data reconciliation, semi-structured data/JSON, PostgreSQL, MySQL, SQL Server, MongoDB, DynamoDB, Redis

Cloud & DevOps: AWS, Microsoft Azure, Google Cloud, Docker, Kubernetes, ECS Fargate, ECR, Terraform, CloudFormation, IAM, CI/CD, Jenkins, Ansible, Git, GitHub, distributed systems

Developer Tools: OpenAI Codex, Claude Code, GitHub, GitLab, VS Code

Observability & BI: Datadog, Prometheus, Grafana, Splunk, CloudWatch, Power BI, Tableau

Infrastructure & Networking: Linux, Windows Server, VMware, HPE/Aruba, Cisco networking, routing and switching, VLANs, TCP/IP, DNS, DHCP, VPN, firewalls, load balancers

Security & Compliance: IAM, RBAC, Okta, CyberArk, HIPAA, ISO 27001, SOC 2, PCI DSS

Certifications

Project Management Professional (PMP)® - Project Management Institute
AWS Solutions Architect - Professional | AWS Solutions Architect - Associate |
AWS Machine Learning Engineer - Associate | AWS Developer - Associate |
AWS AI Practitioner | AWS Cloud Practitioner
CompTIA Security+ CE | CompTIA Network+ CE
Red Hat Certified System Administrator (RHCSA)
Microsoft Azure Fundamentals | Microsoft Azure Data Fundamentals
Coursera Meta Full-Stack Web Development Certified