

EXPERIENCE

Career Break - Professional Development in Generative AI and Agentic Systems

07/2025 – Present

- Deployed a self-hosted n8n server on an AWS EC2 instance to orchestrate personal agentic workflows, integrating multi-agent systems with AWS services (e.g., ECS, Bedrock) for scalable automation, API orchestration, and process optimization—applying CI/CD best practices and operational excellence in agile environments.
- Built and deployed a multi-agent chatbot on <https://osvaldocalles.com/> (a digital twin for professional queries) using AWS Bedrock AgentCore in Python; implemented Retrieval-Augmented Generation (RAG), semantic chunking, prompt engineering, and Model Context Protocol (MCP) via gateways for context-aware, long-horizon tasks like decision-making and collaborative problem-solving, while managing infrastructure with CloudFront, S3, Route 53, vector databases, and security features (e.g., authentication, data validation).
- Explored code generation tools like GitHub Copilot to accelerate scripting in Python, C#, and SQL for AI prototypes, alongside hands-on fine-tuning and integration of foundational LLMs with SageMaker, LangGraph, LangSmith, and LlamaIndex to enable enterprise-grade AI solutions.
- Completed targeted AWS Skill Builder courses (over 60 hours) in generative AI, agentic applications, and MCP to support practical deployments in cloud AI platforms like Bedrock.

Software Engineer, Microsoft, Redmond, WA (mostly remote)

10/2019 – 06/2025

- Developed features for the Project System, CPS (closed-source code), and Test Explorer (closed-source code) in Visual Studio to enhance development workflows. Contributions: [Project System for Visual Studio Pull Requests on GitHub](#) and [Project System for Visual Studio Commits on GitHub](#)
- Maintained and enhanced Test Explorer functionality in the C# Dev Kit extension for VS Code, implementing new testing features. Contributions: [VSCode Extension Closed Issues on GitHub](#)
- Contributed to open-source projects including [TryDotNet Closed Issues on GitHub](#) and Jupyter Notebook (dotnet interactive) [Dotnet Interactive Commits on GitHub](#) and [Jupyter Notebook \(DotNet Interactive\) Commits on GitHub](#)
- Updated documentation for VS Code: [VSCode Documentation for C# DevKit Pull Requests on GitHub](#)
- Served as Infrastructure Champion, managing CI/CD processes, releases, and code compliance through automation and maintenance.
- Resolved bugs reported by Visual Studio paid customers, including communication, debugging, and fixes to improve product quality.
- Worked in-office for the first year, then transitioned to remote due to COVID-19.

Software Developer, Oracle, Jalisco, Mexico

10/2018 – 10/2019

- Fixed minor bugs in the Automatic Storage Management (ASM) component, debugging C-based systems and handling API integrations.

Software Engineer, Amdocs, Jalisco, Mexico

12/2017 – 10/2018

- Maintained and supported AT&T's billing software, specializing in large-scale financial transaction processing with precise SQL-based data management in high-pressure environments.
- Provided on-call support during weekends, resolving high-priority issues for enterprise customers in Argentina, Chile, and Peru.

Software Developer, Continental, Jalisco, Mexico

02/2017 – 12/2017

- Developed and implemented features in C for automotive embedded systems running on Linux.
- Enhanced the Security Development Lifecycle (SDL) through secure code reviews for C-based implementations on Linux.
- Collaborated in agile development using Scrum methodology via Jira.

Software Engineer, Intel, Jalisco, Mexico

09/2012 – 01/2017

- Led static analysis processes using Klocwork, including configuration, result analysis, CVE-based bug prioritization, issue tracking, and collaboration with developers to resolve issues.
- Created threat models to assess security of Intel graphics drivers for Windows and containers in the Clear Linux distribution:

[Threat Model of Containers on GitHub](#)

Internship, Intel, Jalisco, Mexico

01/2007 – 01/2008

- Tested an automation system for manual tasks (e.g., mouse movements, text input, window management), developing and scripting at least 150 functional test cases in C, and creating deployment content for validation engineering.

EDUCATION

Master's in Computer Science, Universidad Autónoma de Guadalajara, Jalisco, Mexico,
01/2014 – 07/2016, Grade 93/100.

CERTIFICATIONS

- Applied Agentic AI for Organizational Transformation, MIT Professional Education (70 hours of effort, completed November 25, 2025).

SOFT SKILLS

Responsible, Problem-solving, Proactive, Team-Oriented, Disciplined, Flexible, Self-learning.

KEYWORDS

Python, SQL, Bedrock Agentcore, Agentcore gateways, AWS Knowledge Bases, Chatbots, agents, multi-agents, Agent-to-Agent (A2A), Lambda Functions, AWS, ECS, EC2, LLM fine-tuning, SageMaker, Bedrock, LangGraph, LangSmith, LlamaIndex, RAG, Vector Databases, MCP, AI agents, GitHub Copilot, TypeScript, C, C#, C++, Git, GitHub, Bash, Linux, embedded systems, Visual Studio, PowerShell, VSCode, operating systems, software developer, software engineer, software security, data structures, design, algorithms, DevOps.