

Summary

Principal Software Engineer and technical leader with 12+ years of experience architecting engineering infrastructure, automation platforms, and data systems while leading diverse engineering teams across hardware and software domains. Created scalable measurement, analysis, and automation capabilities for aerospace and XR products, including robotics-based performance platforms, hardware-in-the-loop infrastructure, and AI-assisted engineering workflows. Skilled at transforming ambiguous hardware-software challenges into reliable systems that improve engineering productivity, accelerate root-cause analysis, and enable data-driven decisions.

Skills & Expertise

- **Languages:** Python (Primary), C++, C#, SQL, MATLAB
- **Infrastructure & Platform Engineering:** Git, Jujutsu, Bazel, Docker, gRPC, Protocol Buffers, CI/CD, Hardware-in-the-Loop (HIL) Infrastructure, Device Farm Architecture, Embedded Systems Integration
- **Automation & Engineering Tooling:** Workflow Automation, Test Orchestration, Internal Engineering Tools, AI-Assisted Analysis, Validation Frameworks, Android Devices
- **Robotics, Vision & Data Systems:** OpenCV, Sensor Fusion, Camera Calibration, Hand-Eye Calibration, SLAM Validation, Telemetry Pipelines, Pandas, NumPy

Work Experience

Magic Leap | July 2018 – Present

Software Engineering Director (Technical Lead)

System Analysis, Verification, and Validation (SAVV)

Google XR Partnership | 2024 – Present

- Established an engineering performance platform and source of truth for end-to-end AI assistant performance on prototype smart glasses, transforming a manual process that evaluated dozens of scenarios into an automated system capable of evaluating thousands daily, enabling engineering teams to quantify changes and monitor regressions over time
- Created a configuration-driven framework to scale automated AI assistant performance evaluation across 10+ tool integrations, including YouTube Music, Calendar, and Gmail. Added and validated new integrations to ensure reliable coverage and build confidence across engineering teams
- Led development of HIL infrastructure for prototype smart glasses, coordinating mechanical, software, and systems engineering efforts to design a user interaction fixture and automation framework. Established a scalable foundation for automated hardware-software validation workflows
- Built integration tooling and CLI workflows enabling automated testing through the Android XR device farm and CI/CD pipelines. Enabled new test scenarios including USB disconnected, touchpad, and AI assistant workflows with unattended 24/7 device recovery
- Developed an AI-driven engineering analysis platform that automated root-cause investigation of complex hardware and software failures by correlating test results, logs, artifacts, metadata, code changes, and source repositories. Created workflows and tool integrations to automate diagnostics, invoke analysis scripts, and provide recommendations that cut investigation time from hours to minutes

Software Engineering Director (Technical Lead), Senior Engineering Manager, Engineering Manager

System Analysis, Verification, and Validation (SAVV) | 2019 – 2024

- Led a team building a robotics-based measurement platform for XR spatial computing performance, directing development of motion capture, display capture, computer vision, and precision synchronization systems while personally driving system integration and test development. Delivered millimeter-level measurement of tracking, hand interaction, and display performance on schedule
- Drove adoption of the robotics-based performance measurement platform across perception, graphics, mechanical, electrical, and calibration teams by establishing trusted, data-driven workflows that expanded its use across diverse engineering needs
- Replaced subjective manual evaluations with automated regression measurement for AR world-lock stability across software builds. Built computer vision and signal-processing pipelines to quantify registration error, drift, jitter, and latency, establishing an objective release gate for XR software
- Established a standardized hand tracking benchmark for XR devices, leading development of hardware-based measurement systems to quantify motion-to-photon latency, tracking error, and noise, enabling perception teams to evaluate algorithm improvements against competitive devices
- Created reproducible engineering workflows for hard-to-diagnose field issues by converting inconsistent customer reports into controlled scenarios for systematic root-cause analysis

Systems Test & Integration Engineer (Contract) (July 2018 – December 2019)

- Led technical execution of a 400-user device deployment program for Magic Leap One prior to commercial launch, managing OS provisioning, application setup, take-home kit preparation, and device checkout workflows to support large-scale field operations
- Developed telemetry analysis tools and reporting workflows that transformed field data into launch readiness insights, producing weekly reports and final qualification results supporting launch decisions

Belcan Corporation | February 2014 – July 2018

Senior Software Engineer, Software Engineer

- Engineered a rapid prototyping and automation framework that unified C#, MATLAB, and Python workflows into a common execution environment, saving \$300K by automating engineering workflows
- Designed telemetry analytics systems for commercial and military engine programs, building data ingestion pipelines for sensor data from flight tests, test stands, and fleets. Implemented parsers for proprietary binary formats and correlated telemetry with maintenance records and fault codes for troubleshooting
- Developed operational analytics systems monitoring engine performance across commercial flight fleets, ingesting ACARS/ACMF telemetry for anomaly detection and fleet health monitoring. Provided data-driven insights supporting FAA-required launch readiness decisions

Education

- **M.S. in Computer Science** – Florida Atlantic University (Graduated December 2017)
- **B.S. in Aerospace Engineering** – University of Central Florida (Graduated May 2013)