

# Aaron Yanello

STAFF SOFTWARE ENGINEER - MISSION CRITICAL SYSTEMS

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Full-stack software engineer and hands-on leader who thrives in ambiguity - driving clarity, speed, and technical excellence from idea to large-scale deployment. Combines extensive technical breadth with pragmatic execution to build reliable, high-impact systems with precision and accountability.

## Experience

### Innovative Defense Technologies

Mt. Laurel, New Jersey

May 2016 - Present

#### Leadership:

- Primary technical liaison and demo lead for high-visibility stakeholder engagements with **DoD executives, Naval Officers, and program managers**. Regularly deliver live demonstrations to audiences of up to **100 personnel**, securing new contracts and expanding company footprint across multiple Navy programs through clear communication of technical value.
- Owned architecture and roadmap for Navy's Ship Self Defense System (SSDS) analysis platform, guiding a 5-person full-stack team through modernization, scaling, and sustainment of mission-critical reliability and throughput across multiple programs.
- Acted as Release Lead for the Aegis analytics platform, coordinating tasks for 14 engineers and delivering 11 major releases with **100% on-time delivery**. Modernized verification frameworks and mentored engineers to scale the release process independently. *JIRA*
- Mentored junior and mid-level engineers as a People Leader, embedding data governance and ownership culture across the division to improve quality and autonomy.

#### Data Analytics & Insights Platform:

- Led design and full-stack implementation of the SSDS analytics platform, architecting a high-throughput data pipeline ingesting **terabytes of telemetry per run**. Enabled mission operators to validate fleet software updates **7x faster** than manual baselines, accelerating readiness and decision cycles. Optimized SQL and decoding logic to achieve an additional **5.2x performance gain**. *C++, Python, Java, PostgreSQL, TypeScript, Docker, REST APIs, DOORS*
- Built an internal analytics and visualization suite that standardized **data observability** practices across programs, enabling cross-comparison of experimental test runs, runtime metrics, and regression trends. Reduced detection-to-fix time by **8-15x**, establishing the benchmark for future analysis workflows. *Java, PostgreSQL*
- Partnered with cross-functional teams to integrate emerging **AI-assisted analysis** into operational pipelines, guiding two subteams (5-7 engineers each) in fine-tuning GPT-4 models and automating SysML workflow. Cut system-modeling time **6x** and created sustainable AI-driven feedback loops for mission engineering. *Python*

#### Infrastructure & Data Workflows:

- Developed a **dependency-free testing framework** replacing full database dependencies with CSV-based mocks, reducing validation runtimes **12x** and standardizing reproducible regression testing across the data engineering org. *C++, Catch2*
- Automated generation of release documentation and regression metrics, producing reproducible, data-rich reports that **accelerated verification 6x** and reduced human error by **35%**. Framework later adopted as the standard release process across four programs. *Java, LaTeX*

#### Cloud & Scalable Platforms:

- Architected virtualization of a legacy multi-service tactical system into a reproducible, cloud-based development platform, eliminating hardware lab dependencies and enabling distributed engineering teams and mission operators to build, test, and validate software anywhere. Achieved **orders-of-magnitude faster iteration** while maintaining latency within **0.1% of physical baselines**. *vSphere, Nexus, Bash, TCL/TK, MS Azure, DOORS*
- Scaled distributed PaaS deployments across classified and unclassified networks that supported continuous software development, test, and analysis to **support hundreds of concurrent workflows**. *Kubernetes, Docker, VMware, ArgoCD, Rancher*

### Freelance Software Engineer

#### Contracted on Per Project Basis

2018-Present

- Liquid Trucking:** Architected and delivered an enterprise integration layer connecting Trimble fleet maintenance systems with BlackBerry Radar asset tracking, automating metric collection, reporting, and maintenance scheduling. Enabled data-driven fleet decisions and produced estimated annual savings of **\$1.43M** through reduced downtime and manual overhead. *Python, REST APIs, JWT Auth*
- PlanetBravo (K-12 Technology Education):** Designed and deployed a Google Sheets automation platform for lesson planning, weekly dashboards, and multi-campus oversight—**cutting review time from 6 hours to 1.5 hours** and **improving administrative accuracy 4x**. Provided ongoing advisory support to align product workflows with educational data privacy standards. *JavaScript, Google Sheets API*
- Ciocca Automotive:** Led full-stack development of a customer portal automating position tracking and communication for Corvette Z06 order waitlists, replacing manual lookup processes with real-time visibility. System scaled to **thousands of concurrent users** and became the dealership group's standard for customer engagement. *Node.js, HTML/CSS, JavaScript, Google Sheets API*

## Education

### M.S. Computer Science

Georgia Institute of Technology | Computing Systems

### Technical Skills

**Languages:** Python | Java | C/C++ | TypeScript/JavaScript |

SQL (PostgreSQL, MySQL) | Bash

**Frameworks & Libraries:** React | Node.js | TailwindCSS | FastAPI | Express | Pandas | NumPy | Test Driven Development

**Architecture & Infrastructure:** Microservices | Event-Driven Systems | Distributed Systems | REST APIs | Containerization (Docker, Kubernetes) | CI/CD (GitHub Actions, GitLab, Jenkins) | Cloud (Azure, VMWare) | Applied AI

**Security & Data:** Data Privacy & Governance | Secure API Design | DOORS

**Leadership & Collaboration:** System Design | Agile | Mentorship | Cross-Functional Collaboration | Stakeholder Communication

### B.S. Electrical and Computer Engineering

Rowan University | Minor: CS, Systems Engineering

### Select Projects

Full project list available at [AaronYanello.com](http://AaronYanello.com)

**Digital Real Estate Assistant (DREA):** An AI-powered real estate recommender that visualizes insights from massive public datasets and a custom NLP engine analyzing neighborhood sentiment from social media.

*Python, PySpark, NLP, Tableau | See on GitHub | Watch Demo Video*

**Drone Delivery Simulator:** A drone grocery delivery system wrapped in Docker containers, connecting users to backend services via REST APIs for real-time store setup, inventory updates, and smart delivery scheduling.

*Java, SQL, Docker | See on GitHub | Watch Demo Video*