Aaron **Yangello**

Staff Software Engineer - Data & Analytics

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Software Engineer with deep expertise in distributed systems, cloud virtualization, and high-reliability analytics. Architected Navy-scale telemetry platforms, led release pipelines across classified domains, and delivered measurable 6-15x performance improvements through automation and architectural modernization.

Experience

Innovative Defense Technologies

Mt. Laurel, New Jersey

Data Analytics & Insights Platform: *May 2016 - Present*

- Directed design and end-to-end development of the U.S. Navy's primary analytics platform for the Ship Self Defense System (SSDS), architecting a high-throughput pipeline ingesting **terabytes of telemetry per run**. Enabled engineers across multiple programs to evaluate performance and validate software updates **7x faster** than manual baselines. Optimized core SQL and decoding logic to deliver an additional **5.2x speed-up** in report generation. *C++, Python, Java, PostgreSQL, TypeScript, Docker, REST APIs*
- Spearheaded development of 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 open-source GPT-4 models and automating SysML workflow. Drove a **6x reduction in system modeling time** while creating maintainable, insight-driven feedback loops for mission engineering. *Python*

Infrastructure & Data Workflows:

- Designed and rolled out a lightweight, dependency-free testing framework for analytical components, replacing full database dependencies with CSV-based mocks. Cut validation runtimes **12x** and institutionalized fast, reproducible regression testing across the data engineering org. *C++, Catch2*
- Standardized analytical module design by creating parameterized, reusable code templates, reducing logic drift across projects and **boosting workflow productivity 4x**. These templates became the basis for internal SDKs now used across multiple, diverse analytics efforts. *Apache FreeMarker*
- Automated generation of release documentation and regression metrics, producing reproducible, data-rich PDF reports that **accelerated verification 6x** and cut human error by **35%**. Framework later adopted as the standard release process across four programs. *Java, LaTeX*
- Served as Release Lead for a mission-critical defense analytics system, orchestrating design, testing, and secure delivery across 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 scientific rigor and reproducibility as cultural norms across the analytics org. *Leadership, Mentorship*

Cloud & Scalable Platforms:

- Architected virtualization of a legacy multi-service tactical system into a fully reproducible, cloud-based analytics and development platform. Eliminated dependency on fixed hardware labs, enabling distributed teams to build, test, and validate software from anywhere. Achieved **orders-of-magnitude faster iteration** while maintaining latency within **0.1% of physical baselines**. *vSphere, Nexus, Bash, TCL/TK, MS Azure*
- Engineered distributed PaaS deployments across classified and unclassified networks, establishing secure, reproducible environments that supported continuous software development, test, and analysis. **Scaled multi-domain clusters 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

B.S. Electrical and Computer Engineering

Rowan University | Minor: CS, Systems Engineering

Technical Skills

Languages: Python | Java | C/C++ | TypeScript/JavaScript | SQL (PostgreSQL, MySQL) | Bash

Frameworks & Libraries: React | Node.js | FastAPI | Express | Pandas | NumPy

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

Security & Data: OAuth2 / JWT Auth | Data Privacy & Governance | Secure API Design | RBAC

Leadership & Collaboration: System Design | Code Review | Mentorship | Cross-Functional Collaboration | Stakeholder Communication

Select Projects

Full project list available at AaronYangello.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