Aaron **Yangello**

Staff Software Engineer - Data & Analytics

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"Staff-level data engineer specializing in large-scale data pipelines, distributed analytics, and reproducible insights. Over nine years developing systems that process terabytes of telemetry for mission-critical platforms. Proven record leading multi-disciplinary teams, automating complex workflows, and accelerating analysis cycles 7-15x through cloud-based infrastructure and scientific rigor."

Experience

Innovative Defense Technologies

Mt. Laurel, New Jersey

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

- Led 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 data pipeline ingesting **terabytes of telemetry** to enable engineers to evaluate performance metrics and validate software updates **7x faster** than manual baselines; optimized SQL queries used in reporting to achieve a further **5.25x speed-up** in report generation. *C++, Python, PostgreSQL, TypeScript, Docker, REST APIs*
- Developed an internal analytics and visualization dashboard for **data observability**, allowing cross-comparison of experimental test runs, runtime metrics, and error distributions, reducing regression detection time by **8-15x**. *Java, PostgreSQL*
- Partnered with cross-functional engineering and operations teams to integrate AI-driven tooling into analytics pipelines, aligning emerging LLM capabilities with mission-specific workflows. Guided two teams (5-7 members each) in fine-tuning open-source GPT-4 models and automating data analysis, resulting in a **6x reduction in system modeling time** and more maintainable, insight-driven feedback loops. *Python, PyTorch, AzureML, GitHub Copilot*

Infrastructure & Data Workflows:

- Designed a lightweight testing framework for data analysis components, using CSV-based mocks to replace full database dependencies; cut validation runtime **12x** and enabled rapid, reproducible regression testing for analytical workflows. *C++, Catch2*
- Developed reusable, parameterized code templates to standardize data processing modules, reducing variability across analyses and **accelerating workflow productivity by 400%**. *Apache FreeMarker*
- Automated generation of release documentation with integrated regression metrics, creating reproducible PDF reports that streamlined verification workflows **6x faster** and cut reporting errors by **35%**. *Java, LaTeX*
- Served as Release Lead for a mission-critical defense analytics system, coordinating test design, secure delivery, and evaluation across 11 major releases in two years with **100% on-time delivery**, while modernizing verification frameworks. *JIRA, Advanced Installer*
- Led a team of 5 engineers to scale reliability and reproducibility of analytical pipelines, introducing workflows that improved throughput and scientific consistency of system evaluations.
- Mentored and coached junior engineers as a People Leader, fostering scientific rigor, reproducibility, and cross-team effectiveness through career development and workflow guidance.

Cloud & Scalable Platforms:

- Virtualized a legacy multi-service tactical system into a fully reproducible cloud-based analytics and development environment, eliminating dependency on fixed hardware labs and enabling distributed teams to build, test, and evaluate software from anywhere. Achieved **orders of magnitude faster iteration** while validating message latency within **0.1% of physical baselines**, ensuring scientific fidelity of results. *vSphere, Nexus, Bash, TCL/TK, MS Azure*
- Engineered and maintained distributed PaaS deployments across classified and unclassified domains, delivering secure, scalable, and reproducible environments for data analysis and experimentation workflows. *Kubernetes, Docker, VMware, ArgoCD, Rancher*

Freelance Software Engineer

Contracted on Per Project Basis *2018-Present*

- **Liquid Trucking:** Developed a fleet management system integration adapter connecting Trimble fleet maintenance tools with BlackBerry Radar asset tracking to automate, metric collection, report processing, and maintenance schedule synchronization, reducing manual effort and enabling data-driven decisions across the fleet, generating estimated yearly savings of **$1.43M**. *Python, REST API, JWT Auth*
- **PlanetBravo K-12 Technology Education:** Built a Google Sheets plugin for teachers and administrators to automate lesson planning, generate weekly dashboards, and provide multi-school oversight, reducing review time from **6 hours to 1.5 hours** and improving accuracy of administrative reporting. *JavaScript, Google Sheets*
- **Ciocca Automotive:** Implemented a customer-facing web application that automated position tracking and reporting for Chevy Corvette Z06 wait lists via a custom Google Spreadsheet adapter and email interface, streamlining customer interactions and eliminating manual lookup processes. CioccaOrderTracker.com *Node.js, HTML/CSS, JavaScript*

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

Python | Java | C/C++ | TS/JS (React/Next.js) | SQL/PostgreSQL | REST APIs | HTML/CSS | AI/ML | Containerization (Docker, Kubernetes) | Cloud (VMware, Azure)

Relevant Projects

Full project list available at AaronYangello.com

Digital Real Estate Assistant (DREA)

Created 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, NPL, Tableau | See on GitHub | Watch Demo Video

Job Offer Comparison App

Built an intuitive Android app with an intuitive mobile interface that lets users input, manage, and compare multiple job offers, factoring in salaries, benefits, leave, and cost-of-living differences, while securely storing data for personalized, side-by-side career decision insights.

Java, SQLite | See on GitHub

Drone Delivery Simulator

Created 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