Tyler Collo

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EDUCATION

George Washington University   Expected Graduation: May 2027
Bachelor of Science, Computer Science   *Major GPA: 3.8/4.0*
- Relevant Coursework: Data Structures & Algorithms, Linear Algebra, Computer Architecture, Operating Systems, Computer Vision, Database Systems, Machine Learning, Systems Programming

EXPERIENCE

Capital One   June 2025 – Present
Software Engineer Intern
- Cut rule deployment time from days to < 1 hour for 150+ users with a Vue.js and AWS Lambda platform.
- Architected a serverless API (AWS Lambda, DynamoDB) achieving sub-200ms latency for CRUD operations.
- Cut manual QA effort by 90% by building a Docker and AWS-based CI/CD deployment pipeline.
- Eliminated configuration errors by engineering a rule serialization system for 100% valid data integration.
- Simplified complex business rules for non-technical users by designing a user-centric UI.

Gyfr   September 2024 – May 2025
Software Engineer Intern
- Achieved a 45% session acceptance boost by building a notification system with timed escalation & batching.
- Owned full-stack development of core monetization feature for tiered revenue using React, TS, and Firebase.
- Developed real-time booking system preventing scheduling conflicts for 200+ users via automated validation.
- Built granular RBAC system using Firebase & React Middleware securing 40+ sensitive endpoints & routes.
- Resolved critical full-stack timezone bugs to eliminate booking failures across 24 distinct timezones.

PROJECTS

GradeFlow | *Python, FastAPI, React, Material-UI*
- Deployed a full-stack grade calculation platform for 80+ students using Python FastAPI and React/MUI.
- Engineered a hybrid AI data pipeline (Regex, OpenAI) to achieve 95%+ accuracy on unstructured data.
- Built persistent user sessions (React Context API) with post-login merging and conflict resolution.
- Developed an asynchronous batch system processing 450+ grade calculations with sub-300ms latency.
- Designed robust security using prompt injection defense, input sanitization, and rate limiting.

SmartSignals | *Python, SUMO, Pytorch, TraCI, Stable Baselines3, Tensorboard*
- Trained PPO agent in SUMO cutting vehicle wait time by 89% against industry standard controllers.
- Engineered a custom Gymnasium environment over SUMO's TraCI API to ensure stable policy convergence.
- Architected an MLP policy network processing vectorized state data for real-time adaptive control.
- Benchmarked agent across 500+ stochastic scenarios, proving a 90% reduction in maximum wait time.

TECHNICAL SKILLS

Languages: Java, Python, C/C#/C++, Typescript, JavaScript, SQL (Postgres), HTML/CSS
Frameworks: React, Vue, Node, MongoDB, Flask, Material-UI, FastAPI, Pandas
Tools: Git, Jenkins, Jira, AWS, Linux, Firebase, SQL, NoSQL, REST API
Concepts: Backend Development, Frontend Development, Fullstack Development, Software Engineering, Machine Learning, NLP, Regular Expressions, Networking, CI/CD, Agile, Automation, DevOps, Microservices