MARQUISE PULLEN

Senior Software Engineer · Product Owner / Tech Lead · Adjunct Faculty

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SUMMARY

Senior software engineer, product owner, and platform technical lead with 16+ years of systems engineering and 9+ years teaching computer science at the university level. Owns the product roadmap and platform direction for a 770+ user educational cybersecurity platform at Lockheed Martin, and teaches the same modern stack — web, cloud, and DevOps — at Rowan University and Rowan College at Burlington County.

PROFESSIONAL EXPERIENCE

Product Owner · Technical Lead

Jul 2026 – Present

Lockheed Martin — CyberQuest Academy · Remote

- Selected as Product Owner for the CyberQuest Academy platform while continuing as Technical Lead — accountable for product roadmap, feature prioritization, and cross-functional alignment across engineering, program leadership, and teacher/mentor stakeholders.
- Identified that the team was operating without visibility into challenge performance, then defined and built a challenge-analytics capability — solve/fail counts, success rate, and user-to-challenge engagement — giving the team data-driven insight into content quality for the first time.
- Built an internal admin portal surfacing those challenge insights with search and sort, balancing strategic reporting needs against developer-facing usability and workflow efficiency.
- Leading the team's adoption of AI to enhance the platform, beginning with AI-assisted challenge development.

Technical Lead

Dec 2025 – Jul 2026

Lockheed Martin — CyberQuest Academy · Remote

- Provided technical direction and continuity for the CyberQuest Academy platform, leading architectural discussions and design decisions across the engineering team.
- Contributed to shaping the 2026 program-year roadmap, aligning platform capabilities with program goals and teacher/mentor feedback.
- Introduced automated testing to the platform for the first time — establishing unit and end-to-end coverage across a codebase that had none and enforcing it as a CI/CD quality gate.
- Established automated accessibility testing (static linting, component tests, rendered audits) in CI/CD, raising WCAG 2.1 AA to an enforced quality standard.
- Back-filled Product Owner responsibilities after the incumbent Product Owner transitioned off the program, sustaining roadmap and stakeholder continuity ahead of being selected into the role.

Senior Software Engineer

Nov 2022 – Present

Lockheed Martin — Display Department · Mount Laurel, NJ

- Maintain and enhance mission-critical Swing-based GUIs within a 3M+ line C++ / 450K+ line Java codebase, delivering fixes and UX improvements tied to incentive-award criteria.
- Expand JUnit and Robot Framework test suites in GitLab CI/CD, reducing regression risk and improving requirement compliance across 35 product baselines.
- Coordinate real-time distributed systems using DDS messaging; diagnosed and resolved a post-restart message-loss defect through middleware QoS durability configuration.
- Serve as back-fill Scrum Master for the Spartan Agile team and provide code-review feedback to uphold quality and Model-Based Engineering standards.

Senior Full-Stack Engineer

Nov 2024 – Nov 2025

Lockheed Martin — CyberQuest Academy · Remote

- Led delivery and sustainment of production features for a 770+ user education platform using Next.js/React and Tailwind CSS with GitLab CI/CD and Docker.
- Owned an end-to-end classroom registration capability — UX, service contracts, and GraphQL/PostgreSQL persistence — supporting onboarding of 100+ classrooms.
- Engineered a multi-stage GitLab CI/CD pipeline (static analysis ’ test ’ build ’ deploy) with templated jobs and quality gates surfaced in the GitLab UI.
- Deployed on AWS ECS Fargate behind an Application Load Balancer, with automated ephemeral per-MR review environments that provision and tear down their own infrastructure.

Adjunct Professor, Computer Science

Sep 2018 – Present

Rowan University · Glassboro, NJ

- Teach Web Programming and Computer Science & Programming (CS 04103) — production-grade web development (HTML, CSS, JavaScript/TypeScript, React, Node.js, REST) via a multi-sprint MERN-stack capstone, plus core CS fundamentals.
- Instruct 69 students per year across multiple sections with a pass rate of 86%; designed the Web Programming curriculum from scratch.
- Built a teaching demonstration project using agentic AI (Ollama, ChromaDB, FastAPI, RAG) to introduce students to practical AI engineering.
- Built an LLM-based grading assistant and Model Context Protocol (MCP) server (39 tools, a review web app, OAuth 2.1) for CS 04103, to speed grading and give class-level performance awareness; the AI proposes each score and each is approved by hand before posting.
- Cut the grading window for a two-section, 45-student midterm by 65–76% (about 45 hours to 11–16), reduced hand-entered grades by 98% (91 to 2), and approved 98.5% of 270 AI-scored answers unchanged.
- Produce recorded lectures and short tutorial videos (OBS Studio) for Computer Science & Programming, Introduction to Web Development, and Web Programming, shared with students through Canvas.

Senior Adjunct Professor, Computer Science

Jan 2017 – Present

Rowan College at Burlington County · Mount Laurel, NJ

- Teach Introduction to Computer Science I & II in C++ — fundamentals, data structures, and object-oriented programming.
- Designed and launched the college's first Cloud Computing and DevOps course sequence, building curriculum, lab infrastructure, and assessments from the ground up.
- Structured the curriculum around real production tooling: GitLab CI/CD, Terraform, Ansible, GCP, microservices, and observability (Prometheus, Grafana, Loki).
- Teach Advanced Cloud Systems & DevOps (CIS-160), part of that sequence, since Spring 2025 (3 terms).

Doctoral Teaching & Research Fellow

Jan 2017 – Jun 2023

Drexel University · Philadelphia, PA

- Instructor/TA across 13 undergraduate engineering course offerings — taught Computation Lab II (MATLAB programming for engineers) as instructor, and Senior Design I–III, Renewable Energy, and Solar Energy Engineering as Teaching Fellow; supported the first fully-remote engineering course pre-COVID.
- Helped modernize the ECE senior design program (30+ teams/year), critiquing technical presentations, proposals, and demonstrations to improve project readiness.
- Conducted graduate research in the Nanophotonics+ Lab on electro-optical switchable filters, publishing two peer-reviewed papers.

Electrical Engineer

Apr 2009 – Nov 2022

U.S. Army DEVCOM C5ISR Center (formerly CERDEC) — PNT Division · Lakehurst, NJ

- Secured $230K in ILIR (In-house Laboratory Independent Research) funding over three years by pitching and leading two in-house R&D projects; presented an Army RDEC research review to the National Academies of Sciences (Nov 2018).
- Built real-time geospatial overlays fusing INS/IMU and Doppler streams (processed at 60 Hz), converting navigation data to KML for visualization in Google Earth to surface sensor outages during live Blackhawk flight tests.
- Researched vision-navigation techniques for GPS-denied environments; led multi-year defense projects and oversaw test-platform design for PNT field testing.

Vehicle Integration Lead

Nov 2006 – Apr 2009

U.S. Army CERDEC — C4ISR On-The-Move · Fort Dix, NJ

- Matrixed from the PNT Branch to the Fort Dix C4ISR On-The-Move team in Nov 2006; learned vehicle integration in the first year and was named Vehicle Integration Lead in 2007.
- Supervised a team of five configuring test vehicles for annual field experiments with soldiers.
- Led installation, testing, and troubleshooting of all GPS, communications, and computer systems across 30 ground and 2 air test vehicles, including vehicle power distribution, power-budget analysis, and battery/inverter upgrades for high-draw payloads.
- Managed and allocated all hardware and vehicle assets for the annual field test event.
- Briefed upper management on integration progress and test readiness.

TECHNICAL SKILLS

Cloud & Infrastructure	AWS (ECS Fargate, ALB, ECR), GCP, Docker, Kubernetes, Terraform, Ansible, Vagrant
CI/CD & DevOps	GitLab CI/CD, Helm, YAML, Infrastructure-as-Code, automated testing, deployment pipelines
Product & Roadmap	Backlog prioritization, feature roadmap ownership, cross-functional stakeholder alignment, product analytics
Frontend	React, Next.js, JavaScript/TypeScript (ES6+), HTML5, CSS3, Tailwind CSS
Backend	Node.js, Java (Spring Boot), Python, REST APIs, GraphQL, Resend (transactional email)
Databases	PostgreSQL, MySQL, MongoDB, Redis, RDS, Supabase (managed PostgreSQL, row-level security)
Testing & Quality	Jest, React Testing Library, Cypress, JUnit, Robot Framework
Observability	Prometheus, Grafana, Loki, Tempo, OpenTelemetry
Accessibility	WCAG 2.1 AA, axe-core / jest-axe, Lighthouse CI
AI/ML	Ollama (LLM integration), ChromaDB, FastAPI, RAG architecture, Model Context Protocol (MCP), LLM-assisted grading and evaluation, human-in-the-loop design, tool and prompt design, privacy-preserving data pipelines
Real-time / Messaging	DDS (pub/sub across distributed systems), QoS policy tuning

AI Dev Tools	OpenCode, Codex, Claude Code, Cline
Teaching & Media	OBS Studio, recorded lectures, screen-recorded tutorials, Canvas LMS

CERTIFICATIONS

- **AWS Certified Solutions Architect – Associate**
  Amazon Web Services · Issued Jan 2026
- **DevSecOps Technical Accelerator Program (DSO-TAP) – Practitioner, Cohort 3**
  Lockheed Martin · CI/CD · Cloud · Security · DevOps · Agile · Graduated Jan 2026
- **DAWIA Acquisition Professional — Systems Engineering (Levels I, II, III)**
  U.S. Army
- **Active Secret U.S. Security Clearance**
  U.S. Department of Defense

EDUCATION

- **Ph.D. Electrical Engineering — Computer Vision & Machine Learning**
  Drexel University · In progress (~2026–2027)
- **M.S. Electrical Engineering — Controls & Digital Signal Processing**
  Drexel University · 2016
- **M.S. Mechanical Engineering — Dynamics & Robust Controls**
  Drexel University · 2009
- **B.S. Electrical Engineering — Electronics & Controls**
  Drexel University · 2006

PUBLICATIONS

- Pelleg, B., Steinhauser, C., Pullen, M., Linden, J., & Fontecchio, A. “Electrically switchable electro-optic filters for spectral line emission detection.” Applied Optics 60, 1059–1067 (2021). [link]
- Pullen, M. N., & Fontecchio, A. K. “Bio-inspired visual sensing enhances imaging techniques using integrated electro-optical switchable filters.” SPIE Vol. 10895 (2019). [link]

HONORS, AWARDS & FUNDING

- ILIR (2020) — Spectral Signature Beacon Navigation, $100K
- Milton Shaw Fellowship (2019–2020) [link]
- ILIR (2018) — H-PDLC Bio-inspired Vision Navigation, $130K
- ExPERTS Fellowship — Experiential Practices in Education Research and Teaching in STEM, Drexel CASTLE (2017–2018) [link]