

# RICHARD D. PAUL

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## Skills

- **Programming:** Python (Pandas, Django, FastAPI), C#/.NET, C/C++, JavaScript (ES6+), Java, SQL, Node.js, Flask, HTML/CSS
- **Cloud & DevOps:** AWS, Azure, Google Cloud, Docker, Kubernetes, Jenkins, GitHub Actions, Terraform, CI/CD pipelines, serverless design, scaling strategies, Linux/Unix scripting, Windows/PowerShell scripting
- **Databases:** MySQL, PostgreSQL, MongoDB, database design & optimization
- **Data & Analytics:** REST APIs, data pipelines, ETL, data visualization (Matplotlib, Seaborn)
- **Collaboration & Leadership:** Agile/Scrum, Git/GitHub/GitLab, code reviews, documentation, strong communication

## Experience

### Computer Science Teacher — Salem Academy Charter School (2025) — Teaching/Leadership, JavaScript, HTML, AI/ML

- Taught 70+ middle and high school students core CS skills (coding, algorithms, web development, AI/ML)
- Increased student interest in computer science from 21% to 47% and quadrupled AP CS enrollment
- Integrated project-based learning, emphasizing problem solving, debugging, and teamwork for students

### Web Developer (Freelance) — J Barrett & Company (2024) — React, Flask, AWS Lambda, Linux

- Reduced operational costs by migrating scheduling software from EC2 hosting to a serverless AWS environment
- Saved management over 5 hours per week by designing an intuitive React interface and scalable backend that improved reliability and team productivity
- Gathered requirements directly from management, documented user workflows, and led training for non-technical staff

### Software Engineer Intern — FIRST Robotics (2023) — Java, Espresso, GitHub Actions, Linux/Bash

- Designed automated testing and control pipelines for robotic systems using real-time diagnostics and sensor data
- Developed continuous integration pipelines providing immediate feedback, accelerating development cycles and improving code quality
- Worked in an Agile team environment, contributing to design reviews, documentation, and sprint retrospectives

### QA/DevOps Co-op — Cisco (2022 June - Dec) — Python, C#, Jenkins, Docker/Kubernetes

- Improved deployment reliability by developing and maintaining cloud-enabled monitoring pipelines for network systems
- Boosted developer efficiency by building internal web tools for testing and diagnostics that were adopted department-wide
- Collaborated across QA, DevOps, and development teams to containerize services and automate deployment testing

### QA Automation Intern — Mutualink (2021) — REST APIs, Groovy, Jenkins, Automated Testing

- Reduced manual QA testing time by 60%, with 100% REST API test coverage using ReadyAPI and Groovy scripts
- Managed automated test infrastructure in Jenkins, ensuring rapid feedback for developers and consistent regression testing
- Documented testing requirements, use cases, and results to align QA and engineering teams

## Projects

### Internal Employee Referral System — Node.js, React, MySQL

- Collaborated with a team of five under UKG sponsorship to build a full-stack referral platform using Agile/Scrum practices
- Designed a microservices-based architecture containerized with Docker, improving scalability and maintainability
- Cut average response times by 30% through optimizing DB queries and RESTful API endpoints to streamline data retrieval

### Dependency Vulnerability Analysis in Serverless Environments — AWS Lambda, Node.js, Snyk

- Conducted master's thesis research on the security of automatic dependency management in serverless computing
- Evaluated risk exposure using tools such as npm audit, Snyk, and OWASP Dependency-Check
- Proposed practical mitigation strategies including dependency whitelisting and function isolation

## Education

### University of Massachusetts Amherst — M.S. Computer Science, May 2024

Focus: cloud computing, serverless computing, AI/ML

### University of Massachusetts Amherst — B.S. Computer Science, Dec 2022

## Awards/Leadership

Eagle Scout • Captain, Robotics Team • President, Board Game Club • Dean's List (multiple semesters)