



# BRIAN LANE

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**SENIOR SOFTWARE ENGINEER** with a track record of building scalable, high-performance backend systems across finance and aerospace. Experienced in microservices, cloud solutions, and backend architecture, with a strong focus on practical, efficient problem-solving through code.

## AREAS OF FOCUS

Microservices Architecture | Cloud Computing (AWS Certified) | Agile & Scrum Methodologies | Systems Programming

**Tech:** Python | Java | Spring Boot | Maven | Docker | Bogie | GitHub | pgAdmin | Splunk | New Relic | Scripting | Jenkins

## PROFESSIONAL EXPERIENCE

### American Express | July 2025-Present

#### Senior Software Engineer – Corporate Card Management

Engineered API endpoints and company wide authorization security.

- Manufactured end to end software including architecture diagrams, reliable production code, and thoughtful unit tests for dozens of new API endpoints.
- Documented workflow process for end to end work of hundreds of API endpoints to increase efficiency from more than 2 weeks to 2 days.
- Refactored old code to meet new company wide authorization security standards for token generation for dozens of API endpoints.
- Provided valuable knowledge transfers to team members and new onboarding members.

### Capital One | June 2022-April 2025

#### Senior Software Engineer – Prism Team

Collaborated on backend development and system optimization efforts.

- Increased operational efficiency by improving data collection processes for allowlists and filter data, resulting in the automation of a full day of manual work.
- Decommissioned legacy web and mobile apps, documenting migration and prepping new teams to move thousands of API endpoints and filters without data loss during live updates.
- Developed a self-service portal for hundreds of internal clients using backend web technologies, reducing support requests.
- Achieved AWS Certified Solutions Architect status, deepening cloud development capabilities and contributing to cloud-first engineering initiatives.

### Charles Schwab | June 2019-June 2022

#### Software Engineer – Human Resource Technology Team

Contributed to the design and delivery of internal HR applications, including scalable backend systems.

- Built and deployed Java Spring microservices on Pivotal Cloud Foundry with CI/CD pipelines via Bamboo, improving release speed and service reliability.
- Developed HR data exchange for Workday traffic by collaborating on Java Spring Boot microservices architecture, enabling Java applications to support both full-time and part-time employees.
- Created Java Spring Boot architecture to seamlessly manage contractor data, resulting in the successful logging of hundreds of contractors and their information.
- Completed intensive new hire training program, earning Java and Scrum Master certifications to strengthen Agile delivery and technical execution.

## **Honeywell | August 2018-June 2019**

### **Software Engineer – User Interface & Guidance Team**

Supported the development and quality assurance of aerospace software systems

- Performed system-level testing on flight simulators, gaining hands-on aerospace bench experience and strengthening real-world application insight.
- Led code, requirements, and design reviews to enforce quality standards and deliver bug-free software aligned with mission-critical performance goals.
- Completed Six Sigma Green Belt Software Development and Design Training, equipping the team with process improvement strategies and defect reduction methods.

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## **ADDITIONAL EXPERIENCE**

### **University of Arizona | January 2018-May 2018**

#### **Research Assistant – Computer Science**

Contributed to bioinformatics research in support of genomic data comparison.

- Accelerated genomic data processing scripts by 7x through algorithm enhancements, enabling faster research analysis.
- Developed custom visualizations of biological data, making complex properties easier to interpret and communicate.
- Implemented new parsing techniques, improving tool efficiency for comparative visualization and analysis tasks.

### **University of Arizona | March 2016-May 2018**

#### **Department Tutor Coordinator – Computer Science**

Helped with tutoring operations and instructional support for core computer science courses.

- Deployed effective tutoring strategies that supported the academic growth of hundreds of students across multiple computer science disciplines.
- Led supplemental instruction sessions on debugging in C using gdb, improving students' problem-solving abilities.
- Trained and mentored tutoring staff to strengthen their mastery of data structures, recursion, and algorithms, elevating the overall quality of instruction.
- Managed hiring, scheduling, and shift leadership for smooth day-to-day operations and optimal tutor-to-student coverage.

### **University of Arizona | January 2017-August 2017**

#### **Teacher Assistant**

Supported undergraduate computer science courses by delivering technical instruction and hands-on assistance.

- Guided students in developing a strong foundation in Unix, including debuggers, Makefile, and shell programming.
- Taught Python and SQL database integration using sqlite3, improving students' ability to build data-driven applications.
- Assisted instruction in core courses, including *Essential Computing* (Python, Bash, SQL) and *Systems Programming and Unix* (Bash, C), reinforcing lecture content through hands-on support.
- Clarified complex technical concepts to enhance student understanding of real-world programming environments.

## PERSONAL EXPERIENCE

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### Home Assistant

- Fully automated home with custom scripts and integrations using a Raspberry Pi
- Originally developed as a simple home automation system that evolved into a full-fledged smart home solution
- Implemented custom automations and preferred logging methods

**Technologies:** Raspberry Pi, Scripting, Yaml Configuration, Zwave/Zigbee

### Surveillance Camera

- Developed a monitoring system using Raspberry Pi and Camera Module V2
- Conducted performance testing comparing OpenCV and Google Cloud Vision APIs for optimal recognition in live stream
- Implemented email security alerts triggered by human upper body detection

**Technologies:** Raspberry Pi, OpenCV, Google Cloud Vision, Bash

### caseFix | iOS Application

- Clarified complex technical concepts to enhance student understanding of real-world programming environments.
- Created an iOS application that enhances keyboard functionality on iOS devices
- Developed with Swift to modify text case (lowercase, uppercase, or fix case)
- Built solution particularly useful for voice-to-text processes

**Technologies:** iPhone, Swift, iOS, AppStore

### BizBlasts | Ruby Monolithic App

- Made a comprehensive booking system to accept payments with a fully integrated e-commerce virtual storefront to allow for the functionality of services, products, rentals, and much more.
- Featured real-time inventory management and Stripe payment processing for small business, provided CRM for users

**Technologies:** Ruby, Render, PostgreSQL, GitHub Actions

## Coming Soon

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### New Coworker | React App

- Simulated an authentic work environment that replaces traditional coding puzzles with job-relevant technical challenges
- Coded the platform for Recruiter, Job Seekers, and Hiring Managers

**Technologies:** React, Javascript, Vite, Firebase

*View all my upcoming projects on my github -> <https://github.com/brianlane>*

## EDUCATION

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**Bachelor of Science in Computer Science, Minor in Psychology,** University of Arizona, College of Science, Tucson, AZ

**AWS Certified Solutions Architect – Associate,** Capital One

**Java & Scrum Master (PSM I) Certified,** Charles Schwab

**Certification in Six Sigma Green Belt Software Development & Design,** Honeywell

**Microsoft Technology Associate: Software Development Fundamentals (MTA),** Microsoft