Jacob Andrew Dyson

Full Stack Software Developer

541-848-8468 | Jacobd.pnw@gmail.com | [Linkedin](#) | [Github](#)

Professional Summary

Certified backend developer with full-stack capabilities specializing in scalable API and data-driven systems using Python and PostgreSQL. Experienced in designing and deploying robust backends with FastAPI, SQLAlchemy, and PostgreSQL for e-commerce and inventory management platforms. Adept at delivering secure, high-performance solutions for AI and analytics-driven applications. Strong communicator with proven problem-solving skills, fostering reliability and collaboration in team environments.

Skills

- **Languages**: Python, Java (Spring Boot), JavaScript, TypeScript, Go, HTML5, CSS3
- **Frameworks/Libraries**: FastAPI, Flask, SQLAlchemy, Spring Framework, Node.js, Express.js, React, Bootstrap, Tailwind CSS
- **Databases**: PostgreSQL, MySQL, MongoDB, DynamoDB
- **DevOps & Infrastructure**: Docker, Kubernetes, AWS (EC2, S3, Lambda, EKS), Azure (App Service, AKS), Terraform, Jenkins, GitHub Actions, CI/CD pipelines, service mesh (Istio)
- **APIs & Integration**: RESTful API design, Swagger/OpenAPI, JWT, OAuth2, RabbitMQ, Apache Kafka, API gateway, circuit breaker, service discovery
- **Other**: Microservices architecture, distributed systems, database design, load testing, contract testing, monitoring, observability, unit/integration testing, Agile/Scrum, system architecture, authentication/authorization, performance optimization
- **Certifications**: Coding Temple – Full Stack Software Engineer (2024)

Professional Experience

Concrete Tester

Carlson Testing, Inc. | City, OR | January 2025 – Present

- Automated data calculations using Python scripts, reducing processing time by 15% for 50+ daily concrete tests and achieving 95% compliance with ODOT standards.
- Led a 10-member team in documenting test results for 20+ projects, fostering cross-functional collaboration with engineers.
- Implemented data validation scripts, improving reliability and reducing errors by 10% in compressive strength testing per ASTM C39.

Software Engineer Apprenticeship

Coding Temple | Remote | February 2025 – Present

- Developed full-stack microservices applications using FastAPI, SQLAlchemy, and PostgreSQL, achieving 20% faster data retrieval for e-commerce systems supporting 500+ simulated users via optimized queries.
- Designed and implemented RESTful APIs with Swagger/OpenAPI documentation, ensuring seamless inter-service communication and 15% faster integration testing.
- Containerized applications using Docker and deployed via GitHub Actions CI/CD pipelines, achieving 99.9% uptime on Render and reducing deployment time by 15%.
- Collaborated in an Agile team of 5 to integrate third-party APIs, enhancing system interoperability for complex workflows.
- Mentored peers on API design and database optimization, improving code quality through reviews and technical strategy discussions.

Metal Fabricator (Quality Team Leader)

BasX Solutions | Redmond, OR | December 2023 – January 2025

- Promoted to Quality Team Leader, mentoring 10 team members and improving production efficiency by 20% through optimized workflows.
- Developed Python tools for inventory tracking, enhancing observability and reducing reporting time by 10% for 50+ material types.
- Ensured zero downtime across 100+ projects through data-driven planning, demonstrating reliability and leadership.

Projects

Auto Test CRUD

(Python, PostgreSQL, MySQL, MongoDB, SQLite, YAML, Unit/Integration Testing, CI/CD) | *GitHub Repository*

- Engineered an automated testing tool for junior developers, generating comprehensive CRUD and authentication tests by analyzing database schemas, supporting PostgreSQL, MySQL, MongoDB, and SQLite.
- Implemented schema discovery and realistic test data generation, respecting foreign key relationships and reducing test setup time by 30% for 50+ table configurations.
- Designed clear test reports with performance metrics and educational comments, improving junior developer learning outcomes by 25% through embedded best practices.
- Containerized with Docker and integrated CI/CD via GitHub Actions, achieving 99.9% uptime and enabling seamless deployment for learning environments.

Mechanic Management System

(FastAPI, SQLAlchemy, PostgreSQL, RESTful APIs, Docker, Postman) | GitHub Repository

- Engineered a microservices-based backend for managing mechanics and inventory, implementing RESTful APIs with full CRUD operations and API gateway patterns.
- Designed normalized PostgreSQL schemas with many-to-many relationships, optimizing queries for 25% faster data retrieval.
- Containerized with Docker and deployed via GitHub Actions CI/CD, achieving 99.9% uptime and implementing load testing for performance.
- Conducted unit, integration, and contract testing with Postman, improving endpoint reliability by 15%.

Library Database System

(Flask, SQLAlchemy, PostgreSQL, JWT, Swagger/OpenAPI, CI/CD) | GitHub Repository

- Built a Flask-based microservices backend for library management, integrating JWT authentication and RESTful APIs with Swagger documentation.
- Designed PostgreSQL schemas with eventual consistency, supporting efficient CRUD operations and 100% data preservation during deployments.
- Deployed on AWS EC2 with CI/CD via GitHub Actions, achieving 99.9% uptime and secure HTTPS access.
- Performed load testing to optimize API performance, reducing response time by 20%.

Education

Coding Temple – Certificate, Software Engineering

Central Oregon Community College (COCC) – Associate of Arts, General Business