

James Alba

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Education

Rutgers University

Bachelor of Science in Computer Science | GPA: 3.79/4.00

New Brunswick, NJ

September 2020 - May 2024

Experience

Revature

Java Backend Training Program

January 2025 - April 2025

Remote

- Developed a social media REST API using Spring Boot with 8+ endpoints for user authentication, message CRUD, and account management
- Implemented Controller-Service-Repository architecture with Spring dependency injection for maintainable, testable code
- Designed relational database schema with JPA/Hibernate ORM; wrote SQL queries with JOINS and optimized database performance

Bristol Myers Squibb

Software Engineer Intern

June 2023 - August 2023

Princeton, NJ

- Built internal analytics dashboard in React that connected to a HANA SQL backend, helping analysts visualize financial KPIs across multiple dimensions
- Wrote SQL queries with JOINS, CTEs, and window functions to aggregate data from Oracle and HANA databases for reporting features
- Created SQL-based validation scripts for the QA team that automated checks during ERP data migration, reducing manual review time

Projects

Tag Simulator | Rust, JavaScript, HTML/CSS

- Built a real-time tag simulation engine in Rust with BFS pathfinding and state machine logic running on a tick-based game loop
- Designed deterministic replay system with memory-efficient grid structures, wall TTL expiration, and multi-entity AI on a constrained 8x8 grid
- Implemented browser-based frontend with serialized state transfer from the Rust core; added playback controls and ASCII rendering

Character EPUB Parser | C++, libzippp, libxml++, Boost.Thread, Ollama-HPP, SQLite, CMake

- Built multithreaded C++ application using Boost.Asio thread pool to parallelize EPUB file processing with mutex synchronization for thread-safe database writes
- Implemented low-level file I/O with libzippp for archive extraction and libxml++ for XML/HTML parsing; managed memory across concurrent threads
- Integrated local LLM inference via Ollama-HPP for NLP character recognition; persisted structured results in SQLite with prepared statements

Recipe API | Java, Spring Boot, PostgreSQL, Docker, Flyway, JPA/Hibernate, JUnit

- Developed RESTful API with Spring Boot using Controller-Service-Repository pattern; implemented DTOs, response mappers, and entity relationships with JPA
- Configured PostgreSQL with Flyway migrations for version-controlled schema management; containerized full stack with Docker Compose
- Wrote unit and integration tests with JUnit and Spring Boot Test; used Git branching and iterative feature delivery

Technical Skills

Languages: C/C++, Rust, Java, C#, Python, SQL, JavaScript, TypeScript, HTML/CSS

Frameworks: Spring Boot, JPA/Hibernate, REST APIs, Boost, .NET, React.js, Next.js, Maven

Developer Tools: Git, Docker, CMake, Linux/UNIX, AWS (EC2, RDS, ECS), Kubernetes, GDB