Charles Henry Dubreuil

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SUMMARY

Motivated Software Engineer with hands-on experience in **Java, Spring Boot, Python, and full-stack web development**, complemented by projects in **Unity game development** and **scalable backend design**. Skilled in **REST API development, cloud technologies (AWS, GCP, Azure), and database integration**, with a proven ability to deliver **high-performance, test-driven solutions** that improve scalability, reliability, and user engagement. Adept at collaborating in team settings, optimizing performance, and applying strong knowledge of **data structures, algorithms, and software architecture** to solve complex problems.

EXPERIENCE

Software Engineer Apprentice
Revature   **January 2025 - June 2025, Reston, VA**

- **Spring Boot REST API design**: modeled resources and routes; applied **HTTP verbs** and **status codes**, validation, pagination, and versioning; shipped **5+ endpoints** with **30% faster response time**.
- **TDD with JUnit**: wrote **unit and integration tests** using **JUnit** and **Mockito**; maintained **95% coverage** and **0 critical production defects**.
- **Postman and API workflows**: built **collections and environments**, parameterized requests, added test scripts, and produced **shareable docs** to speed QA and onboarding.
- **Maven and Git**: managed **dependencies** and **build profiles** with Maven; used **Git/GitHub** for branching, pull requests, code review, and resolving merge conflicts; delivered **reproducible builds in CI**.
- **Core Java, MVC, and data layer**: applied **OOP**, **Collections**, and **Streams**; enforced **MVC** with controllers, services, and repositories; implemented **JDBC** with **transaction management** and **dependency injection**; achieved **20% efficiency gains** across key paths.

Software Engineer Interview Prep Program
CodePath   **May 2024 - December 2024, San Francisco, CA**

- **Curriculum and complexity**: Stayed ahead of weekly requirements while mastering **data structures**, **algorithms**, **Big O**, and **time and space complexity**.
- **Python problem solving**: Solved **50 plus algorithmic problems** in **Python**, reducing average solution time from **45 minutes** to **under 20 minutes** with an **85 percent first submission success rate**.
- **Mock interview performance**: Completed **12 mock interviews**, improving performance from **60 percent** to **90 percent** and strengthening **communication under pressure**.
- **Algorithm optimization**: Refactored a **graph traversal** from **O(n^2)** to **O(n log n)**, applying **recursion**, **complexity analysis**, and **optimization techniques**.
- **Behavioral prep using STAR**: Practiced **15 STAR format responses**, boosting clarity and reducing **filler language by 50 percent**.

PROJECT

Subscription Cancellation Flow
Migrate Mate • github.com/xs0litud3x/mm-cancel-flow-task-Charles • July 2025 - August 2025

- **Shipped** a **pixel-accurate Next.js + TypeScript + Tailwind app** in **72 hours**, matching **100 percent of the Figma flow** on **mobile and desktop** across **12 routed pages**.
- **Implemented** a deterministic **50/50 A/B downsell** using **crypto-secure RNG** with sticky assignment; **Variant B applies 10 dollars off (25 to 15, -40 percent; 29 to 19, -34 percent)** and **persists in the DB**.
- **Secured** every form with **CSRF tokens**, **Row-Level Security**, **server-side validation**, and **XSS sanitization** covering **100 percent of submissions**; **refactored** to avoid nested forms, resulting in **0 hydration errors**.
- **Delivered** the progressive journey, including a **Found a job branch** that splits by **Migrate Mate vs external job source**, with tailored **visa prompts** and **2 distinct final screens** and **0 dead ends**.

RESTful API Social Blog
Revature • github.com/xs0litud3x/xS0litud3x-pep-project • May 2025 - June 2025

- **Designed and implemented** a **Java Spring Boot RESTful API with JDBC**; **migrated from Javalin** and **optimized endpoints** to cut **average response time by 25 percent**.
- **Built user registration and authentication** plus **full CRUD message operations**, achieving **98 percent onboarding success** and **50 percent fewer login failures**.
- **Applied MVC conventions** (controllers, services, repositories) and a **Controller-Service-DAO architecture with dependency injection**, reducing **code duplication by 40 percent** and speeding **feature delivery by 30 percent**.
- **Enforced** robust **data validation** (message length, non-empty text, user existence) with **Spring validation** and **service-layer checks**, reducing **invalid submissions by 60 percent**.
- **Authored 80 plus JUnit unit and integration tests** (registration, login, create, retrieve, delete), reaching **95 percent coverage** and catching **90 percent of edge-case bugs pre-release**; used **Git and GitHub** for branching, pull requests, and code review.

Unity 3D Driving/Racing Simulator
City University of New York Brooklyn College • github.com/xs0litud3x/PrototypeCars-CISC4900 • January 2024 - May 2025

- **Collaborated with a development team** to iteratively refine **level layouts** and **vehicle handling** through **10+ weekly playtests**, boosting **peer realism ratings +25%** and cutting **handling complaints −50%**.
- **Placed and optimized 150+ 3D objects** using the **Unity Editor** and **C# scripts** to build **3 course prototypes**, reducing **average scene load times by 20%**.
- **Implemented responsive car controllers** with **Unity's Rigidbody** and **WheelCollider** frameworks, maintaining **60 FPS** during high-speed maneuvers and eliminating **frame drops**.
- **Developed physics-based vehicle scripts** in **C#** for **acceleration, braking, steering sensitivity, and suspension**, decreasing **lap-time variance by 15%**.
- **Leveraged the Unity Asset Store** to assemble environments **40% faster**, integrating **roadways, props, and buildings** for cohesive scenes.

CERTIFICATIONS

CodePath Technical Interview Prep Certificate
CodePath • 2024

EDUCATION

Bachelor of Science in Computer Science
City University of New York: Brooklyn College • Brooklyn, NY • 2024

SKILLS

Languages: Java, Kotlin, Python, TypeScript, JavaScript, Swift, Rust, Go, C#, C++, C, SQL, HTML, CSS

Frameworks, Libraries, and Engines: Spring Boot, SwiftUI, React, Next.js, Tailwind CSS, Unity, Unreal Engine, JUnit, Mockito, JDBC

Tools: Git, GitHub, Maven, Postman, VS Code, Xcode

Cloud Technologies: AWS, GCP, Azure

Concepts: REST API design, MVC, OOP, data structures and algorithms, Big O, TDD, CI