

John Parrott

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Summary

Junior backend developer with experience building production-style systems, REST APIs, and data-driven platforms using Java, C++, Python, PostgreSQL, and Docker. Delivered full-stack and backend projects focused on authentication, resource optimization, and scalable service architecture. Strong foundation in OOP, algorithms, and distributed systems fundamentals.

Education

University of South Florida (USF) Tampa, FL

Aug 2020 - May 2025

Bachelor of Science, Computer Science

Honors: USF Directors Scholarship, Florida Bright Futures Scholarship, Schnabel-Sparacio Scholarship

Technical Skills

Backend & Systems: HTTP/REST Architecture, Authentication & Authorization, API Design, Docker, Postman

Programming Languages: Java, C++, Python, JavaScript, TypeScript, C, SQL, C#

Frameworks & Libraries: Micronaut, Node.js, React, Next.js, Unreal Engine 5

Databases & Data: PostgreSQL, SQL schema design, Data Modeling, CSV processing & automation

Tools & Dev Practices: Git, Docker, Agile/Scrum, Windows Forms, DataGridView, Linux/WSL, VS Code, IntelliJ

Computer Science & Architecture: OOP, Data Structures & Algorithms, Operating Systems, Computer Architecture

Project Experience

PathOptimize - Hospital Equipment Optimization System (*Electron, Node.js, React, Python*)

Jan 2025 – May 2025

- Designed and implemented core algorithms to analyze equipment location history and generate data-driven recommendations for reducing travel distance and improving resource allocation within the hospital
- Developed logic to identify optimal storage locations for mobile equipment based on usage frequency, travel paths, and proximity to high-demand areas, enabling hospitals to reduce operational inefficiencies
- Produced usage insights including most-used devices, most commonly accessed rooms, and daily utilization ratios, helping administrators prioritize purchasing and staffing decisions

Student Management System (*Java, TypeScript, Micronaut, PostgreSQL, React, AG Grid*)

Aug 2024 – Dec 2024

- Developed a full-stack web application for managing student registration, schedules, and academic progress using Micronaut, React, and PostgreSQL
- Implemented a role-based authentication system to manage access for students, instructors, advisors, staff, and administrators, ensuring appropriate permissions and functionality for each user type
- Built an advisor dashboard to manage student enrollments and track degree progress, along with an instructor dashboard that allows instructors to view their assigned courses and students
- Created staff and administrator tools for managing courses, departments, and user accounts

Docropolis Web Server - C# Custom HTTP Server (*.NET, HttpListener API, HTML/CSS/JS*)

Sept 2025 – Oct 2025

- Built a lightweight, modular HTTP web server in C# using HttpListener, handling routing, session management, and authentication
- Implemented a custom router supporting GET, POST, and PUT methods with role-based authorization and CSRF validation
- Created reusable abstractions (ResponsePacket, Router, SessionManager) for clean separation of concerns and extensibility
- Adapted architectural principles from the CodeProject tutorial *Writing a Web Server from Scratch*, restructured for improved modularity and maintainability

Work Experience

The Fountains at Lake Point Woods

April 2020 - Oct 2022

Server

- Collaborated with kitchen staff to manage diet of elderly residents, improving their health and overall well-being
- Conducted training programs for new employees, providing them with the skills to effectively interact with residents, provide meals accurately, and assist with various needs, ultimately enhancing resident satisfaction