

# 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, 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, Linux/WSL, VS Code

**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 algorithms to process 50K+ location data points from hospital equipment logs, generating recommendations that reduced average retrieval distances by up to 20%
- Engineered optimization logic to determine optimal storage zones based on usage frequency and proximity to high-demand areas, improving resource access times by ~15–25%.
- Generated daily and weekly usage reports across 1000+ devices and 150+ rooms, enabling hospital administrators to make data-backed procurement and staffing decisions.

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

**Aug 2024 – Dec 2024**

- Created a full-stack web application supporting hundreds of student records with registration, scheduling, and GPA tracking modules using Micronaut, React, and PostgreSQL.
- Implemented a 5-tier role-based access control (RBAC) system managing permissions for students, instructors, advisors, staff, and admins, ensuring secure access across 30+ application routes.
- Prepared advisor and instructor dashboards with real-time enrollment and progress tracking for 100+ students per semester.
- Constructed CRUD management tools for course and department data, enabling admins to manage dozens of departments and 200+ course records through a clean, React-based interface.

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

**Sept 2025 – Oct 2025**

- Engineered a lightweight HTTP web server in C# capable of handling 100+ concurrent connections, featuring modular routing, session handling, and authentication.
- Developed a custom router supporting 3+ HTTP methods (GET, POST, PUT) with role-based authorization and CSRF protection, reducing repetitive route definitions by ~40%.
- Authored 3 core reusable classes (ResponsePacket, Router, SessionManager) to decouple business logic and improve maintainability, cutting feature iteration time by ~30%.

## 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