

Jason Merchan

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EDUCATION

Rutgers University

Bachelor of Science in Computer Science, GPA: 3.7

New Brunswick, NJ

Sep. 2022 – May 2026

Relevant Coursework: Data Structures & Algorithms, Computer Architecture, Systems Programming, Numerical Analysis, Linear Algebra, Data Management & Data Science, Software Engineering

PROFESSIONAL EXPERIENCE

Software Engineer

Enterprise Application Services at Rutgers University

Mar. 2024 – Present

New Brunswick, NJ

- Cross-collaborated to develop the official myRutgers App using Flutter and Firebase, serving 70,000+ users
- Implemented app-wide navigation system, using URI routes, resulting in 14% performance improvement
- Redesigned authentication system, using state management and API integration, reducing login time by 4x
- Reworked components using JavaScript web-scraping and Firestore Database to deliver user-tailored widgets

Web Developer

Urological Associates of Central Jersey

Jun. 2021 – Aug. 2021

Edison, NJ

- Designed the website for Urological Associates, using React.js and AWS, increasing online presence
- Increased clinic's online visibility by 70% using SEO practices, providing a 38% growth in page views
- Incorporated medical documentation into user-friendly content, achieving 95% client satisfaction
- Reduced patient phone inquiries by 25% through website information accessibility, lowering clinic costs

PROJECTS

Layback Mobile App | *Flutter, Dart, Firebase, Docker*

Feb. 2024 – Present

- Created a mobile app using Flutter and Firebase BaaS to provide beach reservation and equipment
- Improved user data security by integrating Google and Meta login APIs, and Stripe payment API
- Constructed inventory system, using state-management, achieving real-time UI based on available supply
- Designed modular architecture with reusable widget components, reducing feature development time by 25%

MyShell | *C, Makefile, Shell, Git*

Mar. 2024 – Apr. 2024

- Coded Linux-based shell in C with piping, I/O redirection, and wildcard expansion for system interaction
- Optimized system process management using `fork()` and `execv()`, reducing command execution latency by 25%
- Enabled custom commands with function pointers in C, enabling Shell conditionals and expanding operations
- Enhanced reliability using error handling and makefile testing, eliminating resource leaks in pipe operations

Rutgers Rocket Propulsion Lab | *Python, C++, Altium*

Sep. 2022 – Feb. 2024

- Improved radio frequency transmission algorithms by 19% in speed, providing better real-time data accuracy
- Facilitated cross-functional team meetings between telemetry and other subsystems, limiting integration issues
- Developed an intuitive GUI using Godot with C++ and GDScript, developing real-time data visualization
- Tested radio transceivers to ensure high packet delivery rate, enhancing telemetry data transmission reliability

Network Graph Simulator | *Java, Git*

Mar. 2023 – May. 2023

- Developed Java simulator using A* algorithm, processing 1M nodes in <30s for analysis of networks
- Enhanced graph manipulation by using graph theory and multi-threading, improving performance by 20%
- Designed scalable network visualization system, dynamically adapting GUI for networks from 10 to 100 nodes
- Applied to urban infrastructure with OpenStreetMap API, simulating failures across 10K+ road networks

TECHNICAL SKILLS

Frameworks/Libraries: React.js, Next.js, Flutter, Node.js, Express.js

Languages: Java, Python, JavaScript, TypeScript, Go, HTML/CSS, SQL, C, C++, Dart, Kotlin, Swift

Developer Tools: Git, Firebase, AWS, Appwrite, MySQL, Docker, XCode, Android Studio, Github, Vercel

Other Skills: Agile, Machine Learning, REST API, Multithreaded Programming, Object-Oriented Programming