

# Jason Merchan

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## EDUCATION

### Rutgers University

New Brunswick, NJ

*B.S. in Computer Science, GPA: 3.7*

*May 2026*

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

## PROFESSIONAL EXPERIENCE

### Software Engineer

Mar. 2024 – Present

*Enterprise Application Services at Rutgers University*

*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

Jun. 2021 – Aug. 2021

*Urological Associates of Central Jersey*

*Edison, NJ*

- Designed the website for Urological Associates, using React.js establishing online presence for patients
- 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, Firestore*

Feb. 2024 – Present

- Created a mobile app using Flutter, Firebase and Firestore database to supply beach equipment and reservations
- 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%

### Knight Market | *JavaScript, AWS, React, GitHub, Docker*

Sep. 2024 – Present

- Developed a marketplace and forum webapp for the Rutgers community, increasing student-to-student interactions
- Lead a team of 8 engineers using Agile practices to accomplish sprints efficiently and meet project deadlines
- Implemented 10+ REST APIs for communication with serverless Lambda functions, reducing infrastructure costs
- Integrated CI/CD using Docker, AWS SAM, and GitHub Actions, streamlining development and deployment

### MyShell | *C, Makefile, Shell, Git*

Mar. 2024 – Apr. 2024

- Created 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

## TECHNICAL SKILLS

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

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

**Developer Tools:** Git, GitHub, Firebase, AWS, MySQL, Postman, Docker, XCode, Android Studio, Vercel

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