Aakash Munawar

Computer Science student at Rutgers University–New Brunswick, seeking software engineering internships

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Education

Rutgers University–New Brunswick: Computer Science
Raritan Valley Community College: Computer Science coursework before transferring to Rutgers
Coursework: Data Structures, Algorithms, Computer Architecture, Discrete Math, Databases

Award

HackRU 2026: Best Regeneron Entry. Team award for Protocol Pre-Flight, a review tool for clinical trial protocols.

Projects

Protocol Pre-Flight | *Team project, HackRU 2026* | Next.js, React, TypeScript, Tailwind CSS

- Built the upload page where a reviewer submits a protocol PDF, and the PDF review workspace that highlights each finding on the page it cites so the evidence can be checked in place.
- Wrote the typed TypeScript API client that connects the frontend to the FastAPI backend my teammates built.

Study Group Matcher | *Solo* | Java, Spring Boot, Spring Security, PostgreSQL, JUnit | study.aakashmunawar.com

- Full-stack app that matches Rutgers students into study groups by shared courses and overlapping weekly free time: stateless JWT sign-in with BCrypt, Flyway migrations, deployed on Render and Vercel.
- Wrote the matching algorithm by hand (merged time intervals, two-pointer intersection). It matched an independent brute-force model on **3,000** random schedule pairs and **1,575** ranked recommendations; **41 JUnit tests** pass.

Chicago Crime Explorer | *Solo* | Python, SQL, SQLite, FastAPI, Chart.js | crime.aakashmunawar.com

- Designed a normalized SQLite schema from the city's flat CSV and loaded **478,089** Chicago police incident records (Sept 2024 – Aug 2026).
- Built a FastAPI backend and a filterable Chart.js dashboard that reuse the analysis notebook's SQL; **19 API tests** confirm unfiltered results match the notebook exactly.

Schedule Builder | *Solo* | Python (standard library)

- Backtracking search over real Fall 2026 Rutgers sections that drops a partial schedule at its first conflict. On a five-course search it never generates **87%** of 2.26 million combinations and runs **5.9× faster** than brute force; 18 tests confirm both find identical schedules.

Campus Route Finder | *Solo* | Python

- Dijkstra's algorithm and a binary-heap priority queue, both written from scratch, over 24 real OpenStreetMap locations; every route matches an independent Floyd–Warshall computation for every pair.

Skills

Languages: Java, Python, SQL, TypeScript, JavaScript, HTML & CSS
Backend: Spring Boot, Spring Security, JWT, JPA, FastAPI, REST
Databases: PostgreSQL, SQLite, schema design, Flyway
Frontend: React, Next.js, Tailwind CSS, Chart.js
Testing & tools: JUnit, unittest, Git & GitHub, Docker, Maven, Vercel, Render