Hassan Ibrahim

551-396-0423 | m.hassan.ibrahim.123@gmail.com | linkedin.com/in/hassan1brahim | Portfolio

Education

Rutgers University, New Brunswick, NJ — Expected May 2028
Bachelor of Science in Computer Science | Dean's Honor List
Relevant Coursework: Data Structures, Algorithms, Database Concepts, Data Science

Technical Skills

Languages & APIs: Python, SQL, TypeScript, JavaScript, Java, C, C++, HTML/CSS, REST APIs, GraphQL
Frameworks: React, Next.js, Node.js, NestJS, Flask, Django, Tailwind CSS, Prisma, Jest, Playwright
AI & Data: pandas, PyTorch, scikit-learn, NumPy, AI agents, MCP, RAG, pgvector, LLM evals, Amazon Bedrock
Infrastructure: PostgreSQL, MySQL, MongoDB, SQLite, Docker, AWS Lambda, GitHub Actions, CI/CD, Vercel, Railway

Professional Experience

HackRU | GitHub — New Brunswick, NJ
Full Stack Developer — *Aug. 2026 – Present*

- Shipped the Fall 2026 redesign for New Jersey's largest hackathon (**600+ hackers**) in an open-source Next.js and React app.
- Built the organizer points system end to end, from React screens to TypeScript AWS Lambda endpoints on MongoDB.
- Restored CI/CD after a package conflict broke **100%** of backend test suites, putting **141 tests** back on every pull request.
- Closed a validation bypass that let users self-verify email or edit locked fields, with regression tests that reproduce the exploit.
- Blocked refused purchases from being recorded with an atomic MongoDB balance check that also rejects injected operators.

New Jersey Innovation Authority | GitHub (open source) — Remote
AI Fellow — *Jan. 2026 – May 2026*

- Doubled ticket throughput for a TechOps team serving **300+ users** by shipping two ML classifiers into its GitHub workflow.
- Fine-tuned a transformer classifier to **98% precision**, up from 50% for a keyword baseline, retrained by GitHub Actions.
- Built an AI agent on Amazon Bedrock that searches **300+ docs pages** and drafts doc fixes for under **$0.03 per ticket**.

Scarlet Labs | Rutgers CS — New Brunswick, NJ
Software Engineer — *Oct. 2026 – Present*

- Selected for Rutgers CS's selective Scarlet Labs program to build, with a team of 4, an AI agent that answers degree questions.
- Built a tool-calling LLM agent that answers from live degree audits, the course catalog and pgvector semantic search.
- Its code verifier fact-checks each answer's prerequisites, offerings and credit loads against real data before students see it.
- Built an MCP server exposing degree requirements and course ratings to an AI advising agent.
- Scraped **1M+ r/rutgers posts** to supplement official academic data with student perspectives.

Public Invention — Remote
Software Engineer Intern — *May 2026 – Present*

- Built a Python pipeline that merges a workbook with GitHub REST API data into live JSON for **69 nonprofit projects**.
- Connected a chat widget and ChatGPT agent to live project data, sharing skill-based ranking rules for recommendations.
- Fixed a sync bug that overwrote every hand-written project status, restored them, and added tests to weekly GitHub Actions.

IBM Z Student Ambassador — Rutgers University
Student Ambassador — *May 2026 – Present*

- Introduced **800+ Rutgers students** to IBM Z mainframes through workshops, career panels and IBM Z Xplore.
- Brought IBM engineers to a Rutgers WiCS data-engineering careers session and represented IBM Z at the BITS BAIT Expo.

Projects

AtlasRU | *Next.js, TypeScript, NestJS, PostgreSQL, Docker* | atlasru.com — *Mar. 2026 – Present*

- Built and run solo a full-stack Rutgers course planner for **1,000+ users**: schedules, degree audits, seat alerts.
- Built an AI advisor agent that reads a student's audit and live seats on its own, fact-checks each course, and edits their plan.
- Handled peak days at **14x median traffic** with edge caching and seat polling that pauses for terms no one is watching.
- Cut API latency **87%** with PostgreSQL JSON aggregation and shrank the database **50%** by writing only changed rows.
- Deployed a Next.js frontend on Vercel and a Dockerized REST API on Railway, with **290+ test files** gated by CI/CD.
- Validated degree audits against **2,429 official requirements**, raising exact agreement from 82% to **99.84%**.

Job Ops Board | *Python, SQLite, LLM agents, LaTeX* | GitHub (open source) — *Sep. 2026 – Present*

- Built an hourly Python/SQLite pipeline tracking **11,000+ jobs** across **2,300+ companies** via LinkedIn and ATS APIs.
- Built LLM agents to score **230+ roles** for fit and generate tailored resumes as LaTeX PDFs.

RU Afloat | *TypeScript, Node.js, MapLibre GL, scikit-learn, ElevenLabs, Gemini* | GitHub — *HackRU, Oct. 2026*

- Built with a team of 4 a flood-response app that forecasts the Raritan River and routes students around flooded roads.
- Trained a river forecast on hundreds of thousands of hourly readings, cutting error **78%** versus a naive baseline.
- Built a hands-free ElevenLabs voice agent that finds users by GPS, routes them around floods and guides each turn.
- Built a Gemini vision agent that inspects live river cameras, cross-checks the gauge, and flags flood photos for dispatch.