

Avni Girish

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EDUCATION

Rutgers University–New Brunswick

New Brunswick, NJ

Bachelor of Science in Computer Science and Cognitive Science - Double Major

Dec 2025

- **Relevant Coursework:** Design and Analysis of Computer Algorithms, Data Structures and Algorithms, Discrete Structures I & II, Computer Architecture, Software Methodology, Principles of Information and Data Management, Mind/Machines & Persons, Introduction to Cognitive Science, Cognition, Intro to Artificial Intelligence, Intro to Data Science, Data Science and Data Management
- **Organizations:** Undergraduate Alliance of Computer Science, Women in Computer Science, Rutgers University Programming Association, Women in Science and Engineering Program-*Douglass Residential College*

SKILLS, ACTIVITIES & INTERESTS

Languages: Python, Java, C, C#, C++, R, JavaScript, SQL

AI/ML Tools: Pandas, Hugging Face, OpenAI API, Claude 4, GPT-4, NLP, EDA, Agentic RAG, MCP, Sentiment Analysis

Frameworks: FastAPI, React.js, Next.js, Flask, Node.js, Streamlit, AngularJS

Databases: MySQL, PostgreSQL, MongoDB, SQLite, Firebase

Developer Tools: Git, Azure DevOps, MATLAB, Unity

Certifications & Training: Python Programming - *GirlsComputingLeague* (2020), First Year Fellowship - *Lead Up Academy* | *Rutgers University-New Brunswick* (2023), Software Engineering Fellowship - *Rutgers Blueprint* (2023), CS50: Introduction to Computer Science - *Harvard University* (2023), Solve Real-World Data Problems with SQL - *Linkedin* (2023), Social/Behavioral/Epidemiologic Research Investigators - *CITI Program* (2023)

Awards: 1st place in the Advanced Category - *HackSBPL* (2021)

WORK & LEADERSHIP EXPERIENCE

The Bank of New York Mellon Corporation

Lake Mary, FL

InfoSec Data Science & AI Engineer Intern | AI Hub and Digital Engineering

Jun 2025 - Aug 2025

- Led AI development of AURA - a self-optimizing dynamic UI system combining Claude 4's financial insight generation with GPT-4.1's AI-powered UI construction, accelerating dashboard development from days to minutes
- Engineered AI-driven feedback loops where natural language inputs dynamically regenerate UI components, reducing revisions by 65% while boosting EDA accuracy and analyst productivity 3.5x
- Pioneered an intelligent agent framework where AI autonomously routes tasks between planning (Claude 4) and programming (GPT-4.1) agents via **React.js/FastAPI**-powered dynamic interfaces

Cognition and Learning Center

New Brunswick, NJ

Food Project Research Lead

May 2025 - Present

- Directed a 200+ participant cognitive-nutrition study, managing preschool testing visits and microbiome lab coordination for stool sample analysis
- Mentored 4+ RAs in ethical research protocols and **RStudio** analytics, increasing team productivity 40%
- Discovered microbiome-cognition correlations through advanced EDA and interactive visualizations

Undergraduate Research Assistant

Jan 2024 - Present

- Established a 30% correlation between preschool math sense and academic math skills through computerized games and tests, using **R, Python and MATLAB** for analysis.
- Identified 25% improved recall tactics in children via game-based studies through explanatory data analysis.
- Revealed a 20% belief shift impacting motivation in children's cognitive development through qualitative data analysis.

Rutgers University Department of Computer Science

New Brunswick, NJ

Rutgers Computing Academic Tutor

Jan 2024 - Present

- Mentored and taught 650+ students in algorithms, data structures, and OOP (**Java**), improving cohort pass rates by 15%
- Collaborated with Instructors and Learning Assistants, assisting in guiding students to advance their knowledge in the CS program.

New Jersey Economic Development Authority

Trenton, NJ

IT Business Analyst Intern

Jun 2024 - Aug 2024

- Collected and analyzed business requirements for projects exceeding \$500,000, utilizing **Azure DevOps, Dynamics365, and Visio** to translate requirements into user stories and document them effectively.
- Coordinated with 5 business units and a development team of 10 members, managing roadblocks, gathering feedback, and facilitating release planning for over 20 project milestones.
- Conducted competitor research on state policies, contributing to strategic planning discussions that impacted over 250 applicants for various EDA programs.

PROJECTS

[AI-Powered Personal Portfolio & Interactive Resume](#)

Aug 2025 - Present

- Engineered a full-stack portfolio website using **Next.js 15 and TypeScript**, featuring dynamic dark/light themes, responsive design, and **Framer Motion animations**, achieving 95% mobile compatibility and <2s load times
- Integrated multi-model **AI chat system** with OpenRouter API, implementing intelligent fallback mechanisms across **GPT-4, Claude, and Gemini models**, resulting in 99.8% uptime and context-aware resume Q&A functionality
- Architected scalable **RESTful APIs** with automated contact form processing, a comprehensive admin analytics dashboard, and Vercel deployment optimization, supporting 1000+ concurrent users with zero downtime

MoodSync+: A comprehensive Mental and Physical Wellness App

Dec 2024 - Present

- Built an AI-powered platform with **Python, FastAPI, and Streamlit**, integrating **Spotify API** to provide personalized recommendations for over 50 mood-based playlists and exercise routines.
- Developed NLP features using **Hugging Face and OpenAI APIs**, achieving 95% accuracy in sentiment analysis and emotion detection for journaling insights.
- Designed interactive dashboards with **Matplotlib and Plotly**, visualizing mood trends for 100+ users while managing a **PostgreSQL** database for efficient data storage.