Nikhil Munagala

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Education

Rutgers University-New Brunswick *May 2025*

B.S. Computer Science Major and Data Science Undergraduate Certification *GPA: 3.5*

- **Relevant Coursework:** Data Structures, Design and Analysis of Algorithms, Software Methodology, Principles of Databases, Computer Security, Data Management in R and Python, Systems Programming

Experience

Undergraduate Teaching Assistant *Rutgers University- CS111* Sep 2023 - May 2024

- Conducted **80** hours of review sessions for **85** students to focus on group-centered problem sets, reinforcing **Java** fundamentals and course topics that include **recursion, object-oriented programming**, and **sorting algorithms**
- Offered constructive feedback on **1020** quizzes to enhance student comprehension of class concepts, contributing to a **22%** increase in the average course grade

Software Engineering Intern *Rutgers University- CS112* June 2022 - Aug 2022

- Worked jointly with **12** developers to design **Java** assignments for the Data Structures course based on real-world scenarios such as **university bus systems** and **file compression algorithms**, boosting student engagement by **25%**
- Implemented the iterator **Object-Oriented Programming** design pattern in **JavaDoc**-documented assignments, leveraging core course concepts such as **linked lists**, **trees**, and **graphs** to improve code structure and legibility
- Collaborated with course staff in weekly sprints to revamp the assignment writeups and feature implementations, ensuring seamless integration through the use of **Git** and **Github** and a **13**% weekly increase in code development

Skills

- **Languages:** Java, Python, C, SQL, HTML, CSS, Javascript, Typescript, R
- **Tools/Libraries:** Git, Github, Pandas, BitBucket, NumPy, POSIX, MySQL, JavaFX, RStudio, Microsoft Outlook
- **Certifications:** Data Science Undergraduate Certification (Rutgers University)

Projects

Chess *Android Studio* Sept-Oct 2023

- Implemented a robust two-player chess game using Android Studio in **Java**, facilitating the control flow of game moves combined with built-in draw and resign options in the **XML** interface
- Employed design principles such as **abstraction** and **inheritance** along with a comprehensive collection of error handling checks to provide modularity and reusability of code, improving overall efficiency by **20%**

RUVerify *Flet (Python), OpenCV, Numpy, Pandas, MySQL* Feb 2023 - Present

- Led a four-member developer team to devise a facial recognition model tailored for access of students entering Rutgers recreational facilities and public libraries
- Created a secure Flet login page authenticating **SHA-256** hashed passwords from a MySQL database
- Utilized the OpenCV library for facial recognition comparison with ID pictures fetched from the MySQL database, attaining a **95%** detection accuracy
- Performed detailed analysis of common ID loss locations from a secondary MySQL database through essential NumPy and Pandas functionalities as a means of informing model implementation in those areas

Leadership

Undergraduate Students Alliance of Computer Scientists (USACS) Tech Director May 2022 - May 2023

- Coordinated with **4** other student organizations to handle the event planning, vendor selection, and budget allocation for UHACCS, USACS' student-run hackathon, attaining a **53%** increase in member participation

- Devised presentations, formulated advertisements, and instructed constructive workshops on different technologies for **67** members in USACS Labs, a weekly program for students to immerse in project development