Nikhil Daehee Agarwal

Bridgewater, NJ 08807 | 732-829-9846 | nikhil.daehee.agarwal@gmail.com
github.com/nikhildagarwal | linkedin.com/in/nikhildagarwal/

EDUCATION

Rutgers University-New Brunswick   New Brunswick, NJ
M.S. in Computer Engineering, Specialization in Machine Learning   Expected May 2025
B.S. in Computer Engineering, GPA: 3.7/4.0   Expected May 2024
Secondary Academic Discipline - Computer Science
Rutgers HKN ECE Honor Society, IEEE

RELATED COURSEWORK

Intro to Artificial Intelligence	Intro to Machine Learning	Deep Learning
Data Structures	Software Methodology	Computer Architecture
Discrete Structures I & II	Design/Analysis of Algorithms	Linear Algebra

WORK EXPERIENCE

Barclays   Whippany, NJ
Software Engineer Intern   June 2023 - August 2023
- Team Wholesale KYC, Client Onboarding, and Group Financial Crime Operations
- Developed in Java, Spring Framework, Microsoft SQL Server (SSMS), PEGA, with Agile deployment
- Created technology to assist in ensuring regulatory compliance and safeguard against fraudulent activity

Makonis   Morris Plains, NJ
Software Engineer Intern   December 2021 - January 2022
- Developed an interactive Java project that verifies, consolidates, and error handles merging Profit and Loss (P&L) statements for multiple group companies into a single financial report
- Exported P&L statements from *Intuit Quickbooks* as .csv files, and generated a detailed report of a group's Total Income, Cost of Goods Sold (COGS), Expenses, Net Other Income/ Net Ordinary Income, etc.

Wyzant   Bridgewater, NJ
College/AP Level Math and Physics Tutor   September 2020 - May 2023
- Provided 1:1 academic support to students in Algebra, Geometry, Pre-calculus, AP Calculus, Multivariable Calculus, SAT math, ACT math, and Physics 1 by planning lessons and reviewing study techniques

Uncle Julios   Bridgewater, NJ
Server   June 2022 - August 2022
- Collaborated with a team of restaurant staff to assist guests, offer recommendations, and efficiently resolve issues in a fast-paced customer service environment

PROJECTS

Handwritten Number ML Classifier | Python, Numpy   repository: Number_Classifier_ML
- Built a Neural Network in Python to correctly classify handwritten numbers.
- Utilizes machine learning algorithms and OOP concepts to implement forward/backpropagation, activation functions, and loss calculation for intelligent learning.
- Trained the network on 60,000 images, which allowed the network to correctly classify 97.64% of 10,000 new images

AiBot Ship Handyman | Python, Numpy
- Built search algorithms, Bayesian Networks, and Markov Chains.
- Implemented A* algorithm for path finding and optimized test environment generation from quadratic time to linear time.
- Built two neural networks to classify images (binary and M-ary classification) with 99.04% accuracy on an unseen test dataset.

Notepad App "Infinote" | Python, SQL, Flask   repository: Infinote_app
- Implemented a notepad/calendar/password storage app using the Flask framework.
- Features RESTful API, OOP, robust login/authentication methods via *Flask Session*, and SMTP email notification capabilities.
- Utilizes SQLite3 database with data normalization for efficiency.

Dictionary Server | Java   repository: Dictionary_Server
- Created a Java Server that has HTTP request/response capabilities and implements a backend server of a Dictionary.
- Implements a custom tree data structure to hold words and definitions which allows for O(1) insertion, deletion, and search.

Pharmacy SWE 2023 | Javascript, HTML/CSS, firebase db   repository: SWE-Online-Pharmacy-Project
- Developed a medication service website with order, pay, and delivery functionality as part of a 10-member team
- Implemented RESTful API architecture, in conjunction with Javascript async and await properties
- Personally developed the backend for our prescription validation & maintenance system

Brew & Bites | Java, XML, AndroidStudio   repository: cafe_android_application Google Play: Brew & Bites
- Implemented OOP and Event-driven methodologies to create a cafe application where users can add items to a cart, view prices and totals, and view active orders.
- Utilizes Android's shared preferences for storage on local devices and communication between Android views.
- Implements Inheritance and Polymorphism for all Java menu item classes (donut, coffee, etc.)

Rhythm Realm Webapp | Javascript, HTML/CSS, firebase db   repository: Rhythm_Realm_Music_Webapp
- Develop a music player web app featuring a login/signup system, email notifications, and a playlist system.
- Implements doubly linked lists of audio objects for efficient insertion/deletion from the queue in the media player

VOLUNTEER WORK
Urban League of Morris County Morristown, NJ
Mentor and Volunteer Math Teacher May 2018 - August 2020
- Actively supported field electrician candidates through the Urban League Power Systems Institute Program for First Energy

First Energy is a utility company that hires its field electricians through this program. The candidates go through a range of tests: physical strength, endurance, ability to climb, knowledge of tools, and an interview. Shortlisted candidates must be able to clear entry-level English and Math requirements at the *Raritan Valley Community College* in NJ.

SKILLS
Programming: Python, Java, C/C++, Javascript, Matlab, RISC-V, SQL
Technologies & Framework: Flask, Jupyter Notebook, Spring, Linux, Git, HTML/CSS, Firebase, PEGA, React
General: Teamwork, Communication, Public speaking, Organization, Problem solving, Time management