ROMIR VARSHNEY

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EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY – College of Computing   **Atlanta, Georgia**
Concentration: Candidate for B.S. in Computer Science (Media & People Threads)   *May 2025*
Relevant Coursework: Multivariable Calculus, Intro to Object-Oriented Programming, Discrete Math, Linear Algebra, Intro to UI Design

SKILLS

Languages: Java, Python, HTML & CSS, C++, QBASIC
Software: Tableau, NumPy, Pandas, Jupyter/Python Notebooks, Visual Studio, JetBrains IDEs

EXPERIENCE

NLP Logix – *Data Science and Machine Learning Intern*   *June 2021 – August 2021*
A data science firm utilizing predictive modeling, data capture automation/integration & application development to deliver automated solutions to clients.
● Produced data visualizations analyzing NFL Play-by-Play dataset metrics using **Tableau** to identify trends between pre-play properties and post-play results by filtering **30,000+** data columns, designing comparative graphs, and building interactive dashboards.
● Developed machine learning algorithms in **Python** with **Random Forest Classifier** learning methods, **Train-Test splits**, and **parameter tuning** to build a predictive model for play-type (run or pass) based on targeted analytic parameters.
● Achieved an ROC AUC score of 0.8, indicating **~80%** accuracy on our model's prediction of play-type.
● Presented our model to the **executive** analytics team of both the NLP and NFL's Jacksonville Jaguars organizations on recognizing and predicting play calls in future games, including discussions on feature-importance and confusion matrices.

FIRST Robotics – *Team Resistance*   *August 2019 – April 2021*
● Utilized **Java** in the software development of an industrial-sized robot to engage and execute field-based tasks and contests.
● Won the **2021 South Florida Regional Quality Award** while competing against over 50 regional teams, and 3,800 nationally.
● **Coordinated** with teammates to build and program the appropriate components, extensively engaging with executive coaches to foster mechanical innovation.

PROJECTS

Music Synthesizer – *Interactive Web-Based Audio Plugins*   *June 2023 – Present*
● Devised a dynamic multimedia synthesizer using **HTML** and **Python** capable of generating audio in parallel with numerous processing effects that shape the character of the sound.
● Designed and constructed a logical interface of user controls, integrating the **Tone.js** library and HTML **event handlers** to manipulate audio directly in the **webpage** with capabilities of rendering multiple notes based on the user's keyboard as a piano.

Song Mashup Generator – *Song Match Optimizer*   *May 2022 – Present*
● Programmed an application with **Python** & **Spotify Web API** to extract track features and produce optimal mashup combinations based on client-provided inputs such as custom playlists or official Spotify collections.
● Constructed a **custom-logic** algorithm that displayed compatible song pairings based on input metadata such as BPM, song key, and time-signature with the ability to adjust parameter weights in ranking song matches.

Lightweight Bank Account/Currency Converter   *November 2020 – March 2022*
● Built a bank account program that can actively change between four currencies for an unlimited number of persisted accounts.
● Employed advanced programming concepts such as custom classes, method overloading, custom collection sorting, lambda functions, and text file manipulation to help save data and perform operations all within a GUI-navigable interface.

LEADERSHIP ROLES

Jacksonville Hindu Day Camp Counselor - A summer camp for engaging kids in the fundamentals of Hinduism and Indian culture. Led classes in Indian mythology & puja recitation, directed historical dramas/dances, and recreated Hindu festival celebrations.

Stanton Summer Bridge: Program Leader and Guide - A summer program introducing incoming freshmen to Stanton High School. Conducted tours, showcased various clubs & organizations, directed school performances, and facilitated sample classes.