Ishita Samadhiya

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Summary

Highly accomplished high school student passionate about programming and women's empowerment. Proficient in advanced Python, AI, C++, and Java, with a solid grasp of HTML/CSS and JavaScript. Demonstrated success in developing a multi-class neural network for predicting genome disorders and winning the Girls Who Code Hackathon with an impactful analysis of global domestic violence. Committed to leveraging technology for social good and eager to contribute to a forward-thinking organization dedicated to empowering women.

Projects

1. Using Deep Learning to Predict Single-Gene, Mitochondrial, and Multifactorial Genome Disorders

- **Project Summary:** Developed a multi-class neural network to predict the type and subclass of genome disorders, such as Diabetes, Alzheimer's, Cancer, etc. This model aims to assist medical professionals in providing preemptive care to mothers at higher risk of having babies with genome disorders. By eliminating the need to wait until a later stage in pregnancy for diagnosis, this project contributes to safer pregnancies and reduces the need for abortions.
- **Technologies and Tools Used:** Deep learning, Neural networks, Python (Advanced), TensorFlow, Keras
- **Key Contributions:**
    - Implemented a multi-class neural network architecture for predicting genome disorder types and subclasses.
    - Collected and preprocessed a diverse dataset of genetic information.
    - Fine-tuned the model to improve accuracy and minimize false predictions.
    - Validated the model's performance using various evaluation metrics.
    - Documented the project's findings, methodology, and results.

2. Girls Who Code Hackathon(Advanced Division) 1st Place Winner: Domestic Violence Across the World EDA

- **Project Summary:** Conducted an exploratory data analysis (EDA) on global domestic violence data as part of the Girls Who Code Hackathon. Explored various factors contributing to domestic violence, including social, economic, and cultural aspects. Analyzed the dataset to uncover insights and trends, aiming to raise awareness and inform potential interventions to address this critical issue.
- **Technologies and Tools Used:** Python, Data Analysis, Data Visualization, Pandas, Matplotlib, Seaborn
- **Key Contributions:**
    - Conducted thorough data cleaning and preprocessing to ensure data quality.
    - Utilized descriptive statistics, visualizations, and statistical analysis techniques to explore and interpret the data.
    - Identified key trends, patterns, and correlations related to domestic violence across different countries and regions.
    - Developed compelling visualizations and presentations to effectively communicate the findings.
    - Secured 1st place in the Advanced Division of the Girls Who Code Hackathon.

3. CUHSD District Hackathon Winner: Spotify Machine Learning Music Recommender

- **Project Summary:** Developed a multi-feature K means clustering-based machine learning model to generate personalized music recommendations based on users' favorite songs. This model incorporates more features than standard Spotify recommendations to provide enhanced suggestions. The project includes a user interface that connects to Spotify for song search functionality and offers visualizations to improve the understanding of the recommendations.
- **Technologies and Tools Used:** Python, Machine Learning, K-means Clustering, Spotify API integration, Data Visualization
- **Key Contributions:**
    - Implemented a multi-feature K means clustering model for personalized music recommendations.
    - Collected and processed data from Spotify and integrated it into the recommendation system.

- Developed a user interface with search functionality and visualizations.
- Collaborated with team members to optimize the model's performance and user experience.
- Won the CUHSD District Hackathon with the project.

Extracurriculars

1. Venom (Founder + President)

- Founder and President of the Venom Club, a platform dedicated to spreading awareness about the issues women face and providing a safe space for all women at Leigh High School.
- Coordinate and lead various events and interviews to promote dialogue and understanding of women's issues.
- Manage social media presence and branding efforts to expand the club's reach and impact.
- Authored a five-part series highlighting the gender pay gap, shedding light on its implications and potential solutions.
- Conduct interviews with influential women

2. Business Professionals of America (Chapter President + Founder)

- Founder and Chapter President of the Business Professionals of America club focused on empowering student leaders to create positive change through learning, professional growth, and service.
- Lead and coordinate various chapter events, including fundraisers and volunteer work, providing opportunities for members to develop their skills and contribute to their community.
- Manage social media and branding efforts to enhance the club's visibility and engage with a wider audience.
- Maintain strong relationships with the school administration and BPA's national chapter, ensuring effective communication and collaboration.

3. Data Science & Analytics (Co-founder + Vice President)

- Co-founder and Vice President of the Data Science & Analytics club, dedicated to promoting core data science principles and increasing data science opportunities within the community.
- Lead schoolwide events, such as showcases, to showcase the projects and achievements of club members and foster interest in data science.
- Co-lead meetings and lectures, providing educational resources and facilitating discussions on various data science topics.
- Judge projects and host competitions, offering a platform for students to apply their data science skills and receive recognition for their work.
- Mentor other students, sharing knowledge, providing guidance, and helping them develop their skills in data science.

Education and Certifications

Education:

Leigh High School, San Jose, CA 06/2025
SVCTE 06/2024

Certifications:

Data Analysis with Python 11/2022
IBM

Introduction to Machine Learning 12/2022
Kaggle

Machine Learning with Python (Honors) 04/2023
IBM

Introduction to Deep Learning & Neural Networks with Keras 05/2023
IBM