Swayam Rana

44345 Stone Roses Circle Ashburn, VA | swayamr2@illinois.edu | (703) 850-7557 | https://github.com/swayamrana

EDUCATION

University of Illinois at Urbana-Champaign *Aug 2020 – May 2024 (expected)*
B.S. in Computer Science, Minor in Business

- **Relevant Courses:** Data Structures, Discrete Structures, Software Design Studio, Computer Architecture, Systems Programming, Game Development, Numerical Methods, Probability & Statistics in Computer Science, Intro to Algorithms and Models of Computation, Machine Learning

PROFESSIONAL AND PROJECT EXPERIENCE

NextGenCS Ashburn, VA
Software Engineer Intern *June 2022 — August 2022*

- Developed a Facial Recognition System built on OpenCV, using Deepface to track facial emotions and expressions and PyTorch to increase the rate of data computation
- Increased efficiency & network speed of client devices up to 50% using AWS CloudFront and Lambda
- Managed Amazon Web Services EC2 vital user data servers and used dashboards to enable horizontal scaling

Vtier Systems Inc. Ashburn, VA
Software Engineer Intern *June 2021— August 2021*

- Created a website and sales page for several dual data storage units & systems using HTML, JavaScript, and CSS
- Transitioned web features to enhance client experience & effectiveness to increase an average users' interaction rate
- Constructed high-resolution images for main product offerings using Adobe Illustrator and AutoCAD

National Institute of Health Washington D.C.
Software Development Intern *June 2020 — August 2020*

- Analyzed 6 TB of data regarding DNA samples and compiled abnormalities to cause a positive processing rate
- Transitioned data using related mapping procedures and business processes to Git and GitHub for version control
- Coordinated stand up meetings within various teams that focus on new technologies and ideas such as CRISPR

LEADERSHIP & VOLUNTEER EXPERIENCE

Open-Source @ Illinois Champaign, IL
Front-End Developer *January 2022 — Present*

- Code a web page to filter university courses and respective GPAs using a Django back-end & a React front-end
- Create functional open-source applications that can be used to assist college students with everyday activities

Association of Computer Machinery Champaign, IL
AI & ML Team Member *Sept 2021 — Present*

- Operate in a Special Interest Group to develop projects in Artificial Intelligence and Data Science
- Build a machine learning model that predicts the results of NBA games by utilizing Kaggle datasets and Elo & Player Efficiency Ratings to determine overall team performance and a Random Classifier derived from the sci-kit-learn library
- Participate in an active discussion about emerging technologies and their ethical implications

TECHNICAL PROJECTS

Shell Command Script

- Customized and scripted a Linux shell program from scratch by creating methods for basic shell commands, such as *cd* and !*history*
- Implemented the use of background processes and external commands within the shell including if-else branches and the storage of scanned variables

Flight Optimizer Dashboard

- Designed a Command Line Interface to output the shortest distance between two airports across the world, using Kaggle datasets and a Graph Implementation, with vertices as airports and edges as flight paths
- Used an Algorithms class which was ultimately applied on our completed graph, consisting of Dijkstra's, Tarjan's, and Landmark's
- Employed an additional method to find the most efficient path between any two airlines with a midpoint airport lying on said flight

Twitter Bot

- Utilized Node.js to configure a Twitter API bot that likes & retweets tweets with specific keywords & elements
- Employed Cronjob to create a tweet function that would send out tweets on a daily, fixed schedule