# 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

**2U/edX**                                                                       Lanham, MD
*Software Engineer Intern*                                                        *June 2023 — August 2023*

- Developed and implemented a server stub between micro front-ends and monolithic Django backend applications to increase the overall efficiency of API testing
- Used Path Contract Testing to catch specific errors within integrated APIs before end-to-end tests were ran between each server
- Managed, stored, and created software in several Docker containers that were later transferred into EC2 instances ready for deployment
- Facilitated in code review sessions and helped to debug and assist the construction of multiple architectural systems

**Vtier Systems Inc.**                                                           Ashburn, VA
*Software Engineer Intern*                                                        *June 2022— August 2022*

- Created a website and sales page for several dual data storage units & systems using HTML, JavaScript, CSS, and React
- 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 2021 — August 2021*

- Utilized Python to analyze 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

## 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