Arjun Sivakumar

arjuns8@illinois.edu | 217.200.0861 | github.com/Arjunsivakumar28 | linkedin.com/in/arjun-sivakumar28

EDUCATION

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN
B.S. Engineering Physics w/ minor in Computer Science
Urbana, USA

GPA: 3.33
Exp Graduation: Dec, 2024

COLEGIO AMERICANO DE QUITO
Quito, Ecuador
Graduated Magna Cum Laude
SAT: 1440/1600

COURSEWORK

Intro to Computer Science I
- **language: Java**

Intro to Computer Science II
- **language: C++**

Data Structures and Algorithms
- **language: Python**

Electric Circuit Analysis & Design

SKILLS

PROGRAMMING
• C++ • Java • Qiskit • Python • HTML • CSS • JS • SQL

TOOLS/APPLICATIONS
• VS Code • Azure DevOps
• Git • Spyder • Android Studio
• Notepad++ • Rhino3D
• IBM Quantum Composer
• MATLAB

FRAMEWORK / LIBRARIES
• React • Spring

HONORS/AWARDS

2018 Best Personal Project Award

2019 Portaestandarte del Colegio - (3rd highest grade in school)

2020 Magna Cum Laude

EXPERIENCE

INTERNSHIP AT COMPUTER SOLUTIONS EAST, INC.

Role: Full-Stack Developer Intern
August 2023 - January 2024 | HTML, CSS, JS, Java, React, Spring

- Create a web app under SCRUM management process
- Develop and design the web app using layered architecture
- Integrate QuickBooks data to implement ***15+*** features and perform reconciliations for ***1900+*** customer entities
- Utilize SpringBoot to implement REST API architecture and OAuth2 authorization framework
- Process card and bank account transactions securely by storing information in database and tokenizing to utilize the QuickBooks workflow
- Analyze ***8+*** bottlenecks with back-end systems and API calls and optimize the response times
- Design and implement ***50+*** UI/UX components, ensuring a user-friendly and efficient web app interface.
- Conduct rigorous testing and debugging with the testing team to ensure application's reliability and security
- Actively participate in code reviews, refining and optimizing code for better performance
- Collaborate with DevOps team to deploy web app on Azure

PROJECTS

REVERSE IMAGE SEARCH ENGINE

January 2022 – August 2022 | Python, OpenCV, Spyder

- Devised a Content-Based Image Retrieval System that can accurately and efficiently retrieve photos from local dataset when presented with a query
- Utilized a HSV color space histogram as an image descriptor to produce feature vectors, and compared the feature vectors using a chi square distance calculation
- Iteratively improved the engine's precision and time efficiency by manipulating bin values of the histogram and by identifying the appropriate image masks to use

DESIGN LIKE A PHYSICIST EXPERIMENT

January 2022 – May 2022 | Python, Spyder | PHYS 398 DLP

- Constructed an experiment to understand the methodology through which LED and incandescent bulbs produce light
- Created a circuit using an Adafruit spectrometer and an Arduino Mega 2560 to detect electromagnetic waves and store data
- Collected and organized large data sets with Pandas, produced elaborate graphs using Matplotlib, and created a line of best fit based on Planck's law of black-body radiation using SciPy