Rishi Papani

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EDUCATION

UNIVERSITY OF MARYLAND

BS in Computer Science & Math
Grad. 2023 | College Park, MD, USA
President's scholarship
Journalism scholarship
Current GPA: 3.96/4.0

THE INTERNATIONAL SCHOOL BANGALORE

Grad. July 2020| Bangalore, India

VARIOUS MONTGOMERY COUNTY MAGNET SCHOOLS

Aug 2007 - Jun 2014| Germantown, MD

LINKS

Github:// **rspapani**
LinkedIn:// **rspapani**

SKILLS

PROGRAMMING

Python • Java • C • Matlab
Scheme • HTML/CSS • JavaScript
MIPS Assembly• QML

LIBRARIES

PyQt • NumPy • OpenCV
Flask • RPi.GPIO •PySerial
• PyGame

MISCELLANEOUS

GNU/Linux • Docker • LaTeX
Functional Programming • AWS EC 2
MS Office • Excel • RESTful APIs
Data Structures and Algorithms
Raspberry Pi

COURSEWORK

Capital One Machine Learning
Systems Programming
Multivariate Calculus
Linear Algebra
Undergraduate Analysis
Programming Languages
Discrete Structures

ACTIVITIES

Kappa Theta Pi - Professional Society
Intramural Soccer

EXPERIENCE

CORNELIUS BEVERAGES | Software Engineering Intern

June 2019 – August 2019 | Bangalore, IN

- Worked on Smart Beverage Dispenser's GUI and Inventory Management.
- Enabled the real-time synchronization of beverage supplies with the dispenser GUI menu to reduce the number of clicks for the customer.
- Usage data was collected and then analyzed to enable automated predictions regarding when supply would deplete, done using Python.
- Led a team of Interns and developed a Smart Module for pre-existing Food Heating Unit, done for sister company, Prince Castle.
- Developed a program to read data received from an MQTT service, program it into the packet format, and send it to an ARM controller using Serial Communication, using Python and the PySerial Library.

UMD DEPARTMENT OF COMPUTER SCIENCE | Undergraduate Teaching Assistant

August 2021 - Present | College Park, MD

- Teaching assistant for Introduction to Systems Programming
- Have to explain difficult technical concepts to students as well as understand and answer their doubts
- Understand, debug, and correct other students' C and MIPS assembly code
- Developed greater technical communication skills by both listening to and reading the complex ideas/code of others, as well as presenting new thoughts in an understandable manner

PROJECTS

OPTIFOCAL DRIVE May 2021 – August 2021

- Machine learning application that monitors whether or not someone is paying attention
- Uses facial recognition and facial landmark detection models to locate and recognize points on a face
- Statistical averaging, linear algebra, trigonometry are then used to calculate orientation and determine if they're paying attention
- Programmed in Python using OpenCV, Dlib, and the PnP algorithm, web demo runs on Flask.

2D PHYSICS ENGINE Oct 2019 – Dec 2019

- Programmed a Physics simulator of 2D objects, accurately portrays Elastic collisions, air resistance, gravity, and drag on rigid bodies.
- Used a particle system, that allows structures of any shape, density, and elasticity to be created.
- Developed particle system by using constraint relations, and verlet integration.
- Implemented engine using Python, can use a variety of graphical front ends to visualize simulations.

ROVEX Jan 2019 – Feb 2019

- A Wifi Controllable Rover with Live Camera Feed. It Streams live footage to a web page which contains controls that may be used to control the robot..
- Developed website front-end using HTML/CSS, Javascript, and AJAX, linked to a Flask back end controlling a Raspberry Pi through RPi.GPIO