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EDUCATION

University of Maryland, College Park **Graduated** May 2023
B.S. Physics **GPA**: 3.3
College Park Scholars

RELEVANT SKILLS & COURSEWORK

* PHYS165 - Programming and Modeling in Physics
* PHYS276 - Experimental Physics II (Electricity and Magnetism)
* PHYS375 - Electromagnetic Waves and Optics Lab
* PHYS485 - Electronic Circuits Lab

Frameworks/Languages: Django, Python, Matlab, C++, JavaScript, HTML, CSS
Editors: Visual Studio Code, Spyder IDE, Arduino IDE, Jupyter Notebook, Microsoft Excel
Python Data Science Libraries: Matplotlib, NumPy, Pandas, SciPy, TensorFlow
Miscellaneous: Git/GitHub, Linux and Windows Terminals, AWS S3, PostgresQL, HTTP Protocols and Status Codes
Self-Studies: Computer Networking, Data Structures & Algorithms

PROJECTS

Django - Personal Blog https://www.arajashe.blog/ | https://github.com/ankith860

* Using the Django Framework, created a personal blog where one can make a profile and blog posts with full CRUD functionality
* Used CSS and HTML for the frontend, Python for the backend, and implemented Django REST libraries to create a custom API that the frontend consumes to retrieve data to render. API also allows future scalability and token authentication.
* Utilized PostgresQL for the database and AWS S3 for file storage.
* Automated deployment with Git hooks that deploy to a Linode host, a Linux Virtual Machine, with Apache as the backend server

Automated Temperature Data Acquisition to Calculate Electromagnet's Resistance

* Used an Arduino microcontroller, programmed with C++, to drive modulated current through a transistor and read temperature data from a thermistor
* Fit the data to relevant equations to derive the electromagnet's resistance

Obstacle Avoidance using Arduino Microcontroller

* Programmed an Arduino, using the Arduino IDE and C++, to collect data from Ultrasonic and IR sensors
* Used the data to calculate the distance to various obstacles

Randomized Projectile Motion Game

* Wrote a Python Script using the Spyder IDE and Python data science libraries (Matplotlib, Pandas, NumPy, and SciPy), to plot randomized trajectories for a projectile
* Players then guessed the values of the variables in the projectile equations using the Position v. Time data from the trajectory

Automated Frequency Measurement for Sodium (Na) Discharge Lamp

* Used Matlab to program and drive a servo-motor as well as collect data from a photodiode sensor in a Michelson interferometer. The interferometer, a series of reflecting mirrors, split and recombined a light beam emitted from a Na Lamp
* The servo-motor altered the distance between mirrors, and the photodiode measured the beam's intensity
* Plotted Intensity v. Distance between Mirrors and calculated the two Na frequencies in the beam

WORK EXPERIENCE

Server at Olive Garden **2/23 - 5/23**

* Dealing with a high stress environment pushed me to develop strong stress management and mental organizational skills
* Taking the guests' orders and working in a kitchen (with no prior experience) helped strengthen my listening and communication skills

Mover for Lucia's Fine Furniture Moving Help **6/22 - 8/22**

* Coordinated a team of movers, thus gaining leadership and coordination experience.
* Communication skills were also strengthened as I often explained the plan to other employees for each moving operation

Physics Tutor (Volunteer) **2/18 - 6/18**

* Taught AP Physics AB to peers after school hours
* Learned how to effectively communicate technical concepts

Habitat for Humanity (Volunteer) **2/18 - 6/18**