Vineeth Vajipey

CONTACT

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EDUCATION

University of Maryland, College Park
BS Computer Engineering *Aug'19 - May'23*
GPA: 3.97/4.0

RESEARCH

RAAS Lab: Robotics Researcher *Dec'21 – Present*

- Researched automatic bridge inspection using C++, ROS, and Moveit.
- Implemented GATSBI algorithm with the DJI Matrice 600 drone.
- Performed extrinsic calibration of LiDAR and optical camera.

Gomez Lab: Computer Engineering Researcher *May'22 – Present*

- Researched wireless communication systems with microcontrollers and mobile devices.
- Developed IoT prototype communicating analog signals to iOS device via Bluetooth.

Capital One: *Machine Learning Researcher* *Aug'19 – Dec'20*

- Completed projects in image colorization, facial recognition, and natural language processing using industry standard open-source code repositories.
- Lead team of 4 in researching center point-based 3D-object detection and tracking from the bird-eye view.
- Presented our findings in the UMD FIRE symposium.

TEACHING

University of Maryland: *Teaching Assistant/Instructor* *Jan '21 – Present*

- Taught Markov Decision Processes, OpenAI Gym, Value Approx/Iteration, Q Learning, PPO, AI Safety for CMSC389F: Reinforcement Learning as part of the Student Initiated Courses program in Spring '22.
- Taught DC/AC circuit analysis, transistors, op-amps, higher order circuits, transient analysis, filters for ENEE205: Electric Circuits in Fall '21.
- Taught MATLAB, signal processing, IoT, cryptography, circuit analysis, microcontrollers for ENEE101: Introduction to EE in Spring '21.

SKILLS

Languages: Python, Go, C++, Java, Swift, HTML, CSS,
Microsoft Azure, Arduino, Django, Angular, SQL, MATLAB

EXPERIENCE

Swing Tech Consulting: ***Mobile Development/Software Internship*** *Oct '19 - Present*

- Developed iOS and Android military training mobile applications for the Department of Defense Education Activity. (DoDEA)
- Built chat-bots to digitize government IT assistance and developed image recognition tool to automate high-security scheduled inventory check-ins.

CB Insights: ***Software Intern*** *May '21 - Aug '21*

- Introduced synonyms token filter to Elasticsearch queries and services.
- Migrated essential data acquisition job from Python to Golang.

UMD ECE Covid-19 Response Team: ***Electrical Engineering Intern*** *May '20 – Jan '21*

- Digitized ECE laboratories with Dr. Romel Gomez in a team of 5 students.
- Enabled students to interact with physical circuitry and other experiments via a website. (onlinelabs.live)
- Presented our products to the Philippine-American Academy of Science and Engineering, International Digital Twin Consortium, and at the Microsoft Azure-IoT Conference.

Private: ***Mathematics and Computer Science Tutor*** *Aug '17 – Dec '20*

- Tutored college and high school students in person and virtually.
- Taught Algebra I/II, Calculus BC, Differential Equations, Data Structures
- Taught 10+ students individually, multiple times per week.

Banyan Nation: ***Software/Electrical Engineering Internship*** *Jun '16 – Aug '19*

- Developed IoT software platform for cities to manage waste in India (Smart Waste).
- Collected data from cities and displayed information to city officials using data visualization tools.
- Built garbage bin sensors, data input applications, bus trackers, employee attendance systems.

PROJECTS

Air Synth: *4th Place Hack PennApps Fall 2020* *Sep '20*

- Air Synth simulates synthesizers virtually without the need for a physical instrument.
- Air Synth detect the contours of a hand with OpenCV. Used background subtraction, filters, and critical point identification to determine which note should be played. (https://devpost.com/software/air-synth)

Prophet Profit: *Best Hack for Resilience: PennApps Fall 2019* *Sep '19*

- ProphetProfit automatically invests an individual's money to help people save and grow funds.
- Motivated by the fact that very few people have enough savings to cover emergency or disaster related costs. Uses GoldmanSachs Marquee API. (https://devpost.com/software/prophet-profit)