Aditya Narayanan

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EDUCATION

The University of Texas at Austin, *Electrical and Computer Engineering* *Class of 2025*

- GPA: 4.0
- Relevant Coursework: Matrices and Matrix Calculations, Intro to EE, Intro to Computing

College Station High School *Class of 2021*

- GPA: 4.73/4.0
- Took courses at Texas A&M University while in high school, including Signals and Systems, Random Signals and Systems, Differential Equations, Materials Science, and Multivariable/Vector Calculus
- Texas A&M GPA: 4.0/4.0

SKILLS

Languages: Proficient in Python, MATLAB, familiar with C++
Tools: Robot Operating System (ROS), Git, Linux, Fusion 360
Microcontrollers/Microprocessors: Arduino, Raspberry Pi, NVidia Jetson Nano

EXPERIENCE

Swarm Robotics Lab *UT Austin, June 2021-Present*

- Undergraduate researcher working with Dr. Sandeep Chinchali, researching computer vision on edge-computing devices using Python on Nvidia Jetson Nano hardware.

Learning and Emerging Networked Systems Lab *Texas A&M University, 2021*

- Implemented various Simultaneous Localization and Mapping (SLAM) techniques on the AWS Deepracer as part of research into autonomous navigation and path-planning using deep reinforcement learning.

Garcia Summer Scholars Program *Stony Brook University, 2020*

- Researched coarse-grained modeling for computationally cheaper simulation of SARS-CoV-2 Spike Glycoprotein. Learned VMD visualization tool, NAMD/GROMACS simulation software, and wrote custom simulation software in python.

STEM to SHTEM Internship *Stanford University, 2020*

- Implemented neural networks on low power edge-computing devices. Built an audio classification model with Tensorflow/Keras, explored the effects of model quantization using Tensorflow Lite, and ran real-time inference on an Arduino Nano 33 BLE Sense.

Intelligent Systems Lab *Texas A&M University, 2019*

- Under the supervision of Dr. Raktim Bhattacharya, I implemented a sensor fusion algorithm using the Kalman Filter for attitude estimation on low-cost IMU sensors. Built system on a Raspberry Pi with Python and a MPU9250 sensor.

Autonomous Vehicles Lab *Texas A&M University, 2018*

- Programmed in MATLAB and ROS (Robot Operating System) to analyze tracking data from an autonomous vehicle.

CONFERENCES/PUBLICATIONS

2020 Materials Research Society Fall Symposium

- Zhang, Z., Zhang. D., Narayanan, A., Ramabadran, A., Simon, M., Rafailovich, M., Deng, Y., Zhang, P., "AI-Guided Coarse-Graining for More Efficient Modeling of SARS-CoV-2 Spike Glycoprotein", 2020 MRS Spring/Fall Meeting & Exhibit, November 28 - December 4, 2020. (abstract #3480255)

2021 American Chemical Society Spring Meeting

- Presented research on coarse-grained modeling for efficient simulation of SARS-CoV-2 Spike Glycoprotein at American Chemical Society Spring Conference.

PROJECTS

Pool Testing Backlight *2020*

- Developed a tool to help lab technicians with COVID Pool Testing: github.com/adityanarayanan03/pool-testing-backlight

V5 Serial Plotter *2020*

- Developed serial plotter application in Python for use with the VEX V5 System. github.com/adityanarayanan03/V5SerialPlotter

AWARDS

USA Physics Olympiad *2020*

- Among 400 students selected nationwide to take the USA Physics Olympiad Exam based on score on F-ma exam

American Invitational Mathematics Exam *2020*

- Among 500 students selected nationwide to take the American Invitational Mathematics Exam (AIME). Scored 7/15, with national median being 6/15.

VEX Robotics Competition *2019-2020*

- Advanced to Texas State and CREATE US Open (National) tournaments based on numerous regional awards.