NASHIR JANMOHAMED

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EDUCATION

University of Central Florida, Computer Science (GPA: N/A) *Fall 2021 - May 2023*
Santa Monica College (SMC), Computer Science (GPA: 3.80) *September 2017 - June 2020*
UCLA (Bachelor of Music), Ethnomusicology-Jazz Studies (GPA: 3.47) *July 2013 - June 2017*

SKILLS AND TECHNOLOGIES

Python, C/C++, Java, MATLAB, Simulink, bash, Rust, NumPy, scikit-learn, Keras, PyTorch, OpenCV, Pandas, Git, GitHub, Arduino, Raspberry Pi, ROS, Unix/Linux, ROS, Jupyter

WORK EXPERIENCE

Google, Software Engineering Intern *May 2021 - August 2021*

- Built Tensorflow model sharding utility using C++, allows checking large models into version control system; also built utility to compare two TF models to validate sharded vs. original model
- Wrote framework code to incorporate TF model into data pipeline, generating video understanding signals to empower search and ranking products
- Currently implementing video feature ingestion microservice for indexing engine

NASA KSC, Machine Learning, Modeling and Control Intern *June 2020 - May 2021*

- Built novel supervised learning architecture using Python to train a Keras model that predicts state evolution of a dynamical system over time with greater than 99% accuracy
- Wrote research proposal for lunar simulation w/ accurate modeling of soil deformation that was approved for funding (∼$100K); enables developing autonomous lunar excavation capability
- Implemented control policies in Simulink & Arduino to control flexible inverted pendulum robot
- Created inference model enabling excavation robot to estimate quantity of regolith mass ingested, wrote and deployed ROS node to hardware; $< 10\%$ MSE operating in simulated lunar environment

NASA GSFC, Software Engineer Intern (5 hrs/week) *July 2020 - December 2020*

- Built Python pipeline to process >780M points of LiDAR data; ML w/ dataset enables onboard autonomy in new satellite, increasing efficiency & reducing power/storage/comms requirements

NASA KSC, Robotics and Computer Vision Intern *June 2019 - August 2019*

- Developed methods to track simulated agents using OpenCV and predict trajectory in real-time with ∼80% accuracy, used for intelligent GNC that avoids collisions in dynamic environments

SELECTED PERSONAL PROJECT

Camera Locking and Modular Positioning System (CLaMP) *August 2018 - July 2019*

- Designed a camera attachment mechanism for NASA spacewalks on ISS; design was selected as one of 24 to be tested at Johnson Space Center; more detail at www.nashirj.com/quintessence

VOLUNTEER/EXTRACURRICULAR/AWARDS

FIRST Robotics Competition, Programming & Assembly Mentor (Pink Team #233) *Spring 2019*

SMC Robotics Club, Operations Manager & Design Lead *August 2019 - June 2020*

Winner (annual award), Mimi Melnick Double M Award for New Jazz Talent *November 2017*

2nd place (76 teams), CodePath Demo Day 2020 for Ridesio iOS App *December 2020*