ERICA TEVERE

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EDUCATION

Johns Hopkins University *August 2019 – May 2021*
M.S.E. Robotics – Faculty Scholarship (GPA: 3.5 / 4.0)
University of Michigan - Ann Arbor *September 2015 – May 2019*
B.S.E. Mechanical Engineering – Magna Cum Laude (GPA: 3.6 / 4.0)

WORK EXPERIENCE

National Institute of Standards and Technology (NIST) *August 2020 – Present*
Robotics Intern – Grasping, Manipulation, and Safety of Robotic Systems Group *Gaithersburg, MD*
- Researching and developing standard for grasp efficiency, testing methods to detect object slip during manipulation tasks
- Investigating and establishing environments for grasp efficiency testing in simulation using Gazebo, PyBullet, and Klampt

FANUC America Corporation *May 2019 – August 2019*
Robotics Intern – Motion Planning Group *Rochester Hills, MI*
- Developed and implemented prototype system to perform dynamic path planning using Intel RealSense D435 sensor
- Performed regression testing for 8 motion options on upcoming software release to verify function and performance

NASA Jet Propulsion Laboratory *May 2017 – December 2017*
Mechanical Engineering Intern – Planetary Sample Acquisition and Handling Group *Pasadena, CA*
- Designed custom parallel manipulator to simulate expected rate of compliance of a robotic arm during sample collection
- Created Python tool to automatically generate movement sequences for testbed robotic arm resulting in decrease in individual test duration by 20%, a reduced required training level of operators, and lower frequency of human error faults during testing
- Upgraded Mars 2020 testbed to characterize sampling acquisition and handling hardware during routine loading interactions and magnify anomalies in flight-like conditions before manufacturing of flight model hardware
- Calculated machining tolerances and re-designed tool to manually actuate ball locking features on sample acquisition hardware for installation into flight hardware and onto subsystem testbeds

Fiat Chrysler Automobiles *June 2016 – September 2016*
Supply Chain Intern – Powertrain Production Planning Group *Auburn Hills, MI*
- Identified issues in supplier release system and spearheaded a task force consisting of 4 departments within FCA to develop and implement proposed solutions - executed inexpensive solutions resulting in a 2 month reduction in the project timeline

RESEARCH AND PROJECT EXPERIENCE

Johns Hopkins University Autonomous Systems, Control, and Optimization (ASCO) Lab *March 2020 – Present*
Graduate Researcher Assistant – Rough-terrain Ground Vehicle Control Project *Baltimore, MD*
- Integrating depth sensing onto an unmanned ground vehicle for real-world testing of robust policy search algorithm
- Investigating different deep learning methods to identify and isolate drivable surfaces for off-road/unstructured environments

University of Michigan Autonomous Robotic Manipulation (ARM) Lab *May 2018 – December 2018*
Undergraduate Researcher Assistant – Manipulation of Deformable Objects Project *Ann Arbor, MI*
- Evaluated limitations of Robotiq 3-finger gripper during grasping to produce functional requirements of replacement gripper
- Designed a parallel gripper with 7 inches less of obstacle interference and 1 inch more of travel in grasping direction
- Incorporated force sensing into gripper fingertips to improve motor control when grasping deformable objects in testing

SAE Michigan Baja Racing *September 2015 – August 2019*
Team Captain, Research and Development Team ('18-'19) *Ann Arbor, MI*
- Managed final design decisions, subsystem integration, & vehicle timeline resulting in record breaking 1st place season finish
- Oversaw $100,00 budget, sponsor relations, recruitment, and community outreach of 40+ person team

Composite Subsystems Lead, Testing Colead, Suspension Mechanical Designer ('17-'18)
- Oversaw and managed 6 week on-car testing time to evaluate performance of vehicle and tune critical subsystems

Composite Subsystem Lead, Steering Mechanical Designer ('16-'17)
- Managed design and manufacturing of 10+ carbon fiber vehicle panels and rule-compliant component guards

PUBLICATIONS

Yahnker, C., Shiraishi, L.R., … **Tevere, E.L.** "Introduction to Tools and Techniques for Surface Sampling on Europa." *16th Biennial ASCE Aerospace Division International Conference on Engineering, Science, Construction, and Operations in Challenging Environments,* Cleveland, Ohio, April 9-12, 2018.

SKILLS

Programming: ROS, C++, Python, MATLAB/Simulink, familiar with Orocos, familiar with OpenCV, familiar with LabVIEW
Embedded Systems/Sensors: Arduino, stereo cameras, IMU, strain gages, linear potentiometers, infrared sensors, Hall effect sensors
Software: CAD (NX, CATIA, SolidWorks), Siemens Teamcenter, FEA/Optimization (Altair HyperWorks), JMP
Manufacturing: manual and CNC mill and lathe, 3D printing, carbon fiber layups, familiar with TIG welding, familiar with GD&T