# VICTORIA HONG

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## EDUCATION

**Rutgers University,** New Brunswick, NJ                                                                 Expected Graduation: May 2023
**B.S. in Computer Engineering & Minor in Computer Science | 3.5**
- **Awards:** Dean's List (Spring 2020)
- **Relevant Coursework**: MATLAB, Digital Logic Design, Engineering Mechanics, Engineering Economics, Scientific Research

## PROJECTS

**Optimal Trajectories for Autonomous Human-Following Carts**                                          July 2020 - Present
- Conduct research on autonomous systems with Dr. Jingang Yi to develop a framework that produces optimal trajectories for contactless carts to achieve safe shopping in crowded environments
- Utilize RGB cameras for human tracking and activity recognition and Adaptive Monte Carlo Localization (AMCL) to estimate robot poses and calculate optimal trajectories
- Experiment with ROS/Gazebo simulations using modified Turtlebot3 platforms and in-lab experiments with an omni-directional robot to prove the accuracy and robustness of technology

**Anomaly Detection Algorithm for Autonomous Driving Vehicles**                                       March 2020 – May 2020
- Researched with Dr. Dario Pompili to create an algorithm to detect anomalous data in autonomous vehicles
- Utilized Gaussian Mixture Model (GMM) anomaly detection method to sort and classify data in specific categories
- Tested resultant data against Multi-Class LSTM Autoencoder and Multi-task Learning Model and concluded GMM produced the most accurate result that consistently found and sorted all anomalies with test and real data

## EXPERIENCE

**CAMDEN COUNTY TECHNICAL SCHOOL**, Sicklerville, NJ                                              June 2019 – Present
**Robotics Mentor**
- Mentor three high school robotics teams and teach a total of 100 students about programming and machining
- Spearhead and design the curriculum for annual Girl Scout workshops and STEAM camps for 120+ students

**RUTGERS UNIVERSITY Busch Student Center**, Piscataway, NJ                                September 2019 – March 2020
**Operations Assistant**
- Assisted an average of 230 customers a day and organized events by setting up tables and chairs, as well as sound and video equipment

**PHO VOORHEES**, Voorhees, NJ                                                                       October 2017 – March 2020
**Waitress**
- Served 190+ customers daily and managed point-of-sales payment systems for seamless transactions
- Proposed and implemented an expansion of the restaurant beverage line that led to a 10% increase in annual sales
- Trained 40% of new employees about expectations, safety procedures, food and drink preparations, and POS system

## LEADERSHIP AND HONORS

- **Fellow, America Needs You** (August 2020 – Present): Selected as one of 75 first-generation college students in New Jersey to serve in a 2-year career development and leadership training program
- **LSAMP Scholar, Louis Stokes Alliance for Minority Participation Program** (July 2020 – Present): Selected as one of the 30 students to participate in a research and professional development program at Rutgers University

## SKILLS AND INTERESTS

- **Programming & Development:** Python, HTML/CSS, Javascript
- **Software**: MATLAB, AutoCAD Inventor, ROS, PyCharm, Jupyter, Gazebo, Overleaf, Blender
- **Machining**: Plasma Cutter, Laser Cutter, CNC Mill, Mill Machine, Lathe Machine
- **Certification**: Introduction to Computer Science (Harvard University)
- **Interests**: Cooking, Watching Crime Shows, Thrifting, Couponing, Graphic Design