

Gabriel Bronfman

(310)-745-1744 • gabriel.byrne.bronfman@gmail.com • New York, NY 11211 • github.com/gabriel-bronfman

EDUCATION

New York University Tandon School of Engineering

M.S in Robotics and Mechatronics (MSMe) | Expected graduation May 2024 | Cumulative GPA: 3.95

Courses: Simulation Tools for Robotics, Gait and Manipulation, Localization and Navigation, Robotic Perception; Pursuing thesis in human-robot interaction as member of the Applied Dynamics and Optimization Laboratory under Dr. Joo H. Kim

New York University Tandon School of Engineering

B.S. in Electrical Engineering | Graduated May 2021

Courses: Embedded System Design, Robotic Locomotion, Robotic Vision, Electronics II

EXPERIENCE

Robotics Engineering Intern: *May 2023 – August 2023*

Hayward Industries, North Kingstown, RI

- Engineered and developed a cutting-edge robotic testbed software system to alleviate a key production bottleneck on the high-volume assembly line.
- Orchestrated cross-departmental collaboration, leading to the deployment of a cost-saving robot, projected to deliver annual manufacturing cost savings of \$300,000.
- Demonstrated proficiency in Python and C++ through the implementation of advanced system recovery tools, resulting in an 30% reduction in downtime

Robotic Teleoperations Engineer: *January 2022 – August 2022*

Dexterity Inc., Redwood City, CA

- Developed production-ready code for seamless robot interaction, resulting in 20% increase in key performance metrics, including order fulfillment rate and uptime percentages
- Managed remote production of industrial robotic systems to meet service agreements, ensuring operational efficiency and client satisfaction
- Successfully debugged perception system issues, eliminating potential costly mistakes in the production process

Robotics and Engineering Teacher: *August – December 2021*

Harlem Children's Zone, Harlem, NY

- Educated students in coding, mechanics, and electronics, empowering them to design their own robotic systems

Technical Support Intern, *May - August 2018 and May - August 2019*

Postman Inc., San Francisco, CA

- Assisted developers on our platform, leading to significant reduction of ticket queue by over 2000 tickets
- Implemented process improvements to address support staffing shortages, resulting in a 20% improvement in throughput

EXTRACURRICULAR ACTIVITIES & PROJECTS

Graduate Thesis Research, *January 2023 – Present - Applied Dynamics and Optimization Lab*

- Developing platform using AR to enable user to control humanoid robot
- Established deep learning pipeline for grasping and manipulating objects using AR
- Working within Unity, with OpenCV, to deploy software on OP3 humanoid robot

Competitive Robotics Perception and Control Lead, *August 2022 – Present - DJI Robomaster Robotics Competition*

- Developed and integrated multiple object tracking stack for autonomous robot running on Jetson Orin hardware
- Leveraging visual SLAM with Lidar; fusing Lidar with visual component to create autonomous system

ORB-SLAM Robotics Navigation, *August 2021 - August 2023 - Present - Course Project*

- Created cloud-based SLAM pipeline for automated control of simulated robot
- Pipeline incorporated visual place recognition training using OpenCV and FAISS

Mobile Robot with Computer Vision, *April 2023 - Course Project*

- Developed mobile robot that used OpenCV for navigation and scanning of ArUCo tags in inventory management scenario
- Leveraged Arduino for mechanical control, integrated Raspberry Pi with USART for vision capabilities

Cat Behavior Controller, *January 2022 - Personal Enrichment Project*

- Utilized a TensorFlow with transferred learning to create a device to track my cat in real time
- Deployed compressed model onto Raspberry Pi to use canned air to discourage self-endangering behavior

SKILLS:

Software: Python, C++, Docker, OpenCV, Pytorch, TensorFlow, Keras, Eigen, ROS2, Gazebo, O3D, Git, Linux, Docker

General: Jira, Confluence, AGILE, CAN, RS232, Algorithms, Hard Working, Passionate,