Marc de Lecea

Email: marc.de.lecea@gmail.com – Web: marcdelecea.com
Cell: (858)353-9331 – LinkedIn: /in/marcdelecea/

Education

Master of Science in Robotics — May 2022
University of Delaware, Newark, DE
Relevant Coursework – Computer Vision, Artificial Intelligence, Robot Kinematics

Bachelor of Science in Mechanical Engineering — May 2021
University of Delaware, Newark, DE
Minor in Computer Science – Dean's List

Experience

Manufacturing Engineering Intern, Hologic Inc. — June 2021 – Present
- Automated serialization process by dynamically generating laser engraving toolpath with Python
- Designed hardware fixture in Solidworks to assist operators and improve ergonomics
- Documented usage procedure, maintenance manual, and validation tests for manufacturing
- Prototyped and built batch PCB cleaning tool to speed up flux cleaning by 1500%
- Modified Android testing software to speed up probe verification and increase accuracy

Microrobotics Research Assistant, University of Delaware — June 2020 – Present
- Applied pathfinding algorithm and plane mapping to microrobot swarm simulation
- Created MATLAB GUI to visualize microrobots and their path planning decisions
- Programmed manual control schema of microrobots with a magnetic field array
- Implemented vision tracking system to monitor multiple microrobots simultaneously
- Crafted automatic control and calibration system to accurately direct robots toward destination

Engineering Intern, TRIC Robotics — January 2019 – March 2019
- Developed novel corn root imaging robot in collaboration with a PhD candidate
- Proposed and modeled alternative mechanical solutions to reduce complexity

Engineering Intern, SAP Design Shop — June 2018 – August 2018
- Created an educational program using a programmable car and a blockchain demonstration
- Built applications for Android Things and AWS DeepLens to expand platform availability for team

Engineering Intern, Vala Sciences — June 2015 – July 2015
- Planned and designed implementation of machine parts for a $500k high throughput microscope which was approved by a team of professional engineers
- Designed lens/mirror mount, 3D-printed mockup, shipping crate, I/O panel, and badge jig

Leadership

Treasurer, Mechanical Engineering Student Squad — April 2018 – May 2021
- Recorded, managed, and optimized club spending
- Counseled potential/incoming mechanical engineering students

Machine Design TA, University of Delaware — August 2020 – December 2020
- Created interactive Solidworks models for students studying from home
- Led office hours and created brief discussion videos demonstrating course concepts

Skills and Abilities
- Extensive machining knowledge and Solidworks experience
- Proficiency in Python, Java, MATLAB, C, C++, UNIX, JavaScript
- Bilingual in Spanish