Sebastien Wah

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LinkedIn   Portfolio

EDUCATION

Massachusetts Institute of Technology (MIT) Class of 2021
Bachelor of Science in Mechanical Engineering, GPA 4.5

Relevant Coursework:

- Precision Product Design

- Advanced System Dynamics and Control

- Design and Analysis of Feedback Control Systems

EXPERIENCE

Mechanical Automation Intern, *Apple Inc.*   Jan. 2019 — Aug. 2019

- Designed and integrated end-to-end automated, system level testing rigs for Sensors QA technicians. Rigs automated common QA test scenarios by emulating user interactions with the devices.

- Collaborated extensively with numerous QA leads for various sensors, including Accelerometer & Gyro-meter, Magnetometer, ALS, and Face ID to determine design specifications.

- Implemented over a dozen mechatronic solutions; Testing setups for accelerometer caught over 60% of all rotation issues found for the product.

Precision Product Design Class Project   Feb. 2021 — May 2021

- Designed the traction drive actuator for the gantry of a vertical 3-axis router with a repeatability of 10 microns for MIT's Hobby Shop as part of a team of 20 students led by Professor Alex Slocum.

- Budgeted errors to track the error motions of the structure, bearings, and actuators at all stages of the design process.

- Deterministically selected machine elements, actuators and structural interfaces using appropriate analysis and experimentation to ensure adequate stiffness and life.

Undergraduate Researcher, *Distributed Robotics Lab (CSAIL)*   June 2018 — Dec. 2018

- Fabricated an array of soft robotic fish through 3D printing, silicone casting, and manual machining for observation of underwater life.

- Updated the design and documented the manufacturing and assembly procedures to reduce process variation.

- Redesigned the fish's clamshell as a foam-filled passive flotation device so that the center of buoyancy would coincide with the center of mass.

SKILLS

Fabrication: manual & CNC machining, 3D printing, silicon molding, laser-cutting, water jet
CAD: Solidworks (CAD & CAM), NX, Fusion 360 (CAD & CAM)
Programming: Matlab, Simulink, Python, C++, OpenCV

PUBLICATIONS

Du, T., Wu, K., Ma, P., **Wah, S.,** Spielberg, A., Rus, D., & Matusik, W. (2021). DiffPD: Differentiable Projective Dynamics with Contact. *arXiv preprint arXiv:2101.05917*.

T. Du, J. Hughes, **S. Wah,** W. Matusik and D. Rus, "Underwater Soft Robot Modeling and Control with Differentiable Simulation," in *IEEE Robotics and Automation Letters*, doi: 10.1109/LRA.2021.3070305.