Matthew Devlin

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EDUCATION

University of California Santa Barbara *September 2019 – Present*
Mechanical Engineering, Ph.D. student – GPA: 3.64

Georgia Institute of Technology *August 2013 – December 2016*
Biomedical Engineering, minor in Computer Science - Highest Honors – GPA 3.61

ACADEMIC RESEARCH

Hawkes Lab – Dr. Elliot Hawkes *September 2019 – Present*
Graduate Research Assistant

- Developing novel shape-changing soft hybrid robots for difficult terrain navigation and high force actuation
- Constructing novel reconfigurable active matter robot collectives using embryo-inspired mechanics
- Forged and led collaborative research projects with two other labs to develop novel robots

WORK EXPERIENCE

Meta *September 2022 – March 2023*
Research intern – Meta Reality Labs

- Developed a new soft, multi-DOF haptic actuator prototype and tested with 10+ users
- Wrote software to integrate this fully soft actuator with existing actuation frameworks
- Submitted a paper to IROS 2023 detailing our findings and conclusions of this work

L'Oréal *January 2017 – July 2019*
Scientist – Rapid Prototyping and Robotics

- Designed characterization tools for 60+ projects, increasing throughput of formulation design iterations
- Created and implemented a new testing method, reducing time spent on data collection 2000X (patented)
- Implemented new robotic testing procedures that mimic human gestures, reducing human error, and saving weeks of personnel scheduling time per test
- Won 1st place in international company-wide hackathon and secured new funding for product development

SELECTED INTELLECTUAL PROPERTY

Patents

- T. Susko, E. Hawkes, E. Sloan, M. **Devlin.** "Variable friction shoe" 2020 US Patent App US201962829254P
- M. **Devlin**, C. Pang, A. Tembe. "Automated Imaging System for Evaluating the Curl of a Keratinous Substrate" 2019 US Patent 16/029,624
- M. **Devlin**, I. Mathew, A. McVey, G. Whitfield. "Bioerodible Drug Delivery Implants" 2019 US Patent App 0008792 A1 – Startup awarded $1.25M in Seed funding

Journal papers

- M. Fanton, H. V. Alizadeh, A. Domel, M. **Devlin**, M. Kurt, G. Mungal, D. Camarillo, E. Hawkes. "Variable Area, Constant Force Shock Absorption Motivated by Traumatic Brain Injury Prevention" *Smart Materials and Structures. 2020*

Conference papers

- M. **Devlin***, A. Alvarez*, N. Naclerio, E. Hawkes, "Jumping on Air: Design and Modeling of Latch-mediated, Spring-actuated Air-jumpers" *IROS.* Kyoto, Japan 2022
- M. **Devlin**, M. Dickens, C. Xiao, E. Hawkes, "SPHR: A Soft Pneumatic Hybrid Robot with extreme shape changing and lifting abilities" *IROS.* Prague, Czech Republic 2021
- D.S. Drew, M. **Devlin**, E. Hawkes, S. Follmer. "Acoustic Communication and Sensing for Inflatable Modular Soft Robots" *ICRA.* Xi'an, China 2021
- M. **Devlin,** B. Young, D. Haggerty, N. Naclerio, E. Hawkes. "An untethered soft cellular robot with variable volume, friction, and unit-to-unit cohesion" *IROS.* Las Vegas, NV, 2020

SKILLS

- **Software:** Python, MATLAB, C++/C, CAD (Solidworks), Adobe Illustrator/Inkscape, ImageJ, Assembly
- **Prototyping :** Laser cutting, 3D printing, metal/plastics machining, PCB design, cleanroom fabrication, molding/casting, formulation chemistry, woodworking