

Jonathan Wallen

Jonathan@insp-eng.com | (808) 295 9854

EDUCATION

UNIVERSITY OF HAWAII AT MANOA (UHM)

PHD IN MECH. ENGINEERING

TOPIC: ROBOT AUTONOMY

Expected May 2022 | Honolulu, Hi

MS IN MECH. ENGINEERING

Oct 2021 | Honolulu, Hi

BS IN MECH. ENGINEERING

May 2019 | Honolulu, Hi

KAPIOLANI COMMUNITY COLLEGE (KCC)

AS IN NATURAL SCIENCE

May 2017 | Honolulu, Hi

LINKS

Personal Site/Virtual

Portfolio://[Inspired-Engineering](#)

LinkedIn:// [J. Wallen](#)

Google Scholar://[J. Wallen](#)

GitHub://[jwallen30](#)

COURSEWORK

GRADUATE

- Autonomous Mobile Robots
- Multidisc. Design Optimization
- Data Science •Machine learning
- Random Processes •Dynamical Systems
- Dynamic Prog. & Stochastic Control
- Analytical Mechanics

SKILLS

TECHNICAL

Optimization • State Estimation • Regression & Modeling • Mechanical & Mechatronic System Design • GD&T • Automation

SOFTWARE

Solidworks • Adobe Creative cloud • MacOS • Windows • Microsoft Office • AutoDesk • Linux • R.O.S.

PROGRAMMING

Matlab • Unix • GitHub • \LaTeX • Python (NumPy, SciPy, pandas)

TACTILE

• Machining • Electronics • Prototyping • Woodworking • Testing

EXPERIENCE

RAN LAB | LAB SUPERVISOR AND GRADUATE ASSISTANT

Jan 2019 - Present | Honolulu, Hi

- Supervise day to day lab operations and long term logistics.
- Plan and oversee installation and use of lab equipment.
- Mentor(ed) and advised 15 undergraduate research assistants.

UHM DEPT. OF MECH. ENGINEERING | TEACHING ASSISTANT

Jan 2020 - May 2021 | Honolulu, Hi

- Delivered lectures and assistance to students and assisted faculty.
- Courses: Sophomore Design Project, Senior Capstone Design.

MAKAI OCEAN ENGINEERING INC. | MECH. ENG. INTERN

Jan 2018 - Jan 2019 | Honolulu, Hi

- Built and tested a complex, novel autonomous underwater vehicle.
- Conducted GD&T with welded, and CNCed parts for marine environment.
- Conducted field and logistics operations.

GENERAL CONTRACTING | OWNER/DESIGNER/BUILDER

Fall 2017 - Present | Honolulu, Hi

- Manage and run business operations with clients and subcontractors.
- Design and build small residential home renovations and supervise crew.

RESEARCH

RAN LAB | GRADUATE STUDENT RESEARCHER

Jan 2019 - Present | Honolulu, Hi

Began with the Robot Autonomy and Navigation (RAN) Lab as an undergraduate researcher investigating AUV docking. Continued to a PhD program under the advising of Dr. Zhuoyuan Song. Current research projects include; Robot localization in dynamic environments, Developing an indoor autonomous vehicle testbed with motion capture feedback system, Developing a permanent AUV docking station node for a near shore ocean observatory, and Mentoring multiple undergraduate engineering teams.

PUBLICATIONS

Selected:

- Jonathan Wallen, Maddyson Jeske and Z. Song. Co-design optimization for underwater vehicle docking systems. MTS/IEEE OCEANS Conf., San Diego, California, September 2021, (to appear)
- Jonathan Wallen, Nic Ulm and Z. Song. Underwater Docking System for a Wave Energy Converter based Mobile Station. MTS/IEEE OCEANS Conf., Seattle, Washington, October 2019
- Jonathan Wallen, and Z. Song. Development of an adaptive docking station for resident underwater vehicles. MTS/IEEE OCEANS Conf., Marseille, France, June 2019

AWARDS & GRANTS

U.S. Dept. of Energy Ocean Observing Prize Winning Team	\$67 K	2021
U.S. Dept. of Energy Marine Energy Collegiate Comp. Winning Team	\$15 K	2020
University of Hawaii at Manoa UROP Grant	\$10 K	2018
S-STEM Scholarship	\$14 K	2017

References and Portfolio available upon request.