

# Kelsey Dugan

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## EDUCATION

**University of Rhode Island**, Kingston, RI  
Bachelor of Science, Ocean Engineering  
Minor, French

May 2020

## ENGINEERING EXPERIENCE

**Undersea Robotics & Imaging Laboratory** *Undergraduate Research Assistant*  
Narragansett, RI

September 2019 - Present

- Design waterproof rubber seal for adapter from RaspberryPi to camera system with emphasis on minimizing size, for camera systems descending to sea floor
- Design analysis for simulation of titanium cylinder for pressure vessel

**PowerDocks, LLC.** *Marine Engineer Intern*

September 2019 - December 2019

Fall River, MA

- Engineered custom water quality buoys for aquaculture farms in Rhode Island and France
- Market research in the French oyster farm industry while communicating with European companies in French

**Senior Capstone Design Project**

September 2019 - Present

University of Rhode Island, Department of Ocean Engineering

- Experimental Material 3D Printing using a Formlabs Form2 SLA 3D Printer
- Creating traditional pressure housings and bio-inspired pressure housings using 3D printed ceramic
- Finite element analysis of glazed ceramic pressure housings to determine how system will act under pressure

**City of Newport Department of Engineering** *City Engineer Intern*

May 2019 - August 2019

Newport, RI

- Investigation of excavation and obstruction permits in compliance with the city's right of way
- Conducted on-site observations and inspections of roadway paving projects, sidewalk installation, line painting
- Utilized ArcGIS to survey crosswalks, stop bars and wheelchair ramps for compliance with American with Disabilities Act

**Tidal Energy Assessment of Potter Pond**

April 2019

University of Rhode Island, Department of Ocean Engineering

- Record tidal amplitudes, ranges, current velocity, water temperature and salinity over 12 hour periods
- Use this data to analyze the energy a turbine can generate from the tidal flow and to predict future tidal patterns

**Wave Transformation and Sediment Transport Analysis of Charlestown Beach**

April - May 2019

University of Rhode Island, Department of Ocean Engineering

- Identify wave directions and yearly average of 20, 50-year return period wave conditions
- Wave propagation and transformations using steady-state, phase-averaged wave action conservation model, STWAVE
- Study of surf zone dynamics, induced currents, and sediment transport based on the linear wave theory

**RELEVANT COURSEWORK:** Robotic Ocean Instrumentation Design; Engineering Ethics; Wave Mechanics and Littoral Processes; Coastal Measurements & Applications; Marine Structure Design; Underwater Acoustics; Seafloor Imaging and Mapping.

## SKILLS

Technical: MATLAB, Mathematica, SolidWorks, Microsoft Office, Microsoft Excel, Microsoft Powerpoint, C++, GIS

Language: Bilingual (English & French)

## LEADERSHIP EXPERIENCE

**Theta Tau Sigma Gamma Chapter** *Regent & Community Service Chair*

August 2018 - Present

- Organize and lead 10 service events throughout Rhode Island throughout Fall 2018 and Spring 2019
- Lead a chapter of 50 members and hold weekly chapter meetings while working closely with the College of Engineering & the Dean of Engineering to facilitate events

**Zeta Tau Alpha, Lambda Beta Chapter** *Treasurer*

November 2017 - December 2018

- Manage finances of 200 member chapter and create yearly chapter budget
- Write checks, pay invoices of house bills, maintain timely membership payments and communicate with national officers

## ACTIVITIES AND HONORS

**Dean's List**

Fall 2019

**URI Centennial Scholarship Recipient**

September 2016 - Present

**SENEDIA Real Jobs RI Grant Recipient**

September 2019-Present

**Theta Tau, A Professional Engineering Fraternity**

February 2018 - Present

**Society of Women Engineers**

September 2016 - Present

**URI Service Corps, Domestic & International Service Trip Participant**

March 2019, March 2018

**Zeta Tau Alpha, Lambda Beta Chapter**

January 2017-May 2019