

# Tyler Billings

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• Work Portfolio: <https://tbillings13.github.io/Tyler.Billings/>

## Education and Research

MS degree in Mechanical Engineering with Management, University of Exeter (IMEchE Accredited) September 2017-September 2018. Exeter, UK (3.73 course GPA)

- **Research:** MS Thesis. Spring-Summer 2018.
  - CFD analysis of vibro-impact pipeline inspection robot conducted in ANSYS Fluent

BS degree in Physics with Mathematics Minor, Gettysburg College class of 2017. Gettysburg, PA (3.01 course GPA)

- **Research:** BS Capstone. Fall 2016
  - Investigated surface degradation and morphology of proton-irradiated silicone (PDMS) using Van de Graaff Positive Ion Accelerator. Under supervision of Dr. Sharon Stephenson, Sponsored by NSF
  - Quantum Optics Laboratory experience: exploration of wave-particle duality of light (Spring 2016)

## Skills/Strengths

- Technical, mathematically skilled, organized, responsible
- Complex problem solving, understanding unfamiliar concepts and systems
- Working collaboratively in groups, communication, experience managing/networking large scale organizations and events
- Experienced in: MATLAB, Java, ANSYS (CFD and FEA), SolidWorks, AutoCAD, R, LaTeX, Python, Mathematica, OpenFOAM

## Employment

- **Marine Operations Engineer Intern**, General Dynamics Mission Systems; Bluefin Robotics business unit. Summer 2016, Summer 2017. Quincy, MA
  - Bluefin develops, builds, and operates Autonomous Underwater Vehicles and related technologies for DoD, commercial and scientific purposes.
  - Marine operations group responsible for offshore and dockside testing, as well as preparation, and maintenance necessary for execution of vehicle test missions and production
  - Other responsibilities: mission planning, vehicle operation/communication, execution of pre/post dive safety checks, troubleshooting electrical and mechanical systems, physical handling, sonar, control, dynamics data analysis
  - Worked closely in teams consisting of marine operations, mechanical, systems, software, and manufacturing engineers.
- **Surveyor Intern**, LandTech Consultants, Inc. Summer 2015. Westford MA.
  - Field experience with all components of basic survey, experience using Leica data collector, 3D laser scanning
- **Intramural Coordinator**, Gettysburg College Intramural Program, ranked 3<sup>rd</sup> in the country for overall participation. Fall 2015-Spring 2016.
  - Top ranking student employee in Gettysburg Intramural program
  - Scheduled all games for all sports, managed all referees, supervisors, and commissioners
  - '13/'14, '14/'15 spent working as referee, Supervisor, and Commissioner
- **Philanthropy Chair**, Alpha Tau Omega (Alpha Upsilon Chapter), Gettysburg College. Winter 2015-Spring 2016
- **Acton Yardwork/Odd Jobs**, Co-Founder of Independent landscaping business. Summer 2011. Acton, MA
  - Managed projects, coordinated teams (3-5 people). Client base of 45+.

## Other Experience

- Course Audits (Coursera): Control of Mobile Robots (Georgia Tech), Aerial Robotics (UPenn)
- Community service: Annual awards for 25, 50 hours ('10, '11), Acton Congregational Church Mission Trip to Brooklyn ('11)
- Basketball: Varsity Basketball Captain 2012-13 ABRHS, Exeter University Basketball Club 2018,
- Club Soccer, Gettysburg College