

# Tyler Billings

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## 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, C++, R, LaTeX, Python, Mathematica, OpenFOAM, DOORS, RPE

## Employment

- **Systems Engineer II**, Raytheon Technologies, Intelligence and Space Group (formerly SAS) (2019-present)
  - Systems Engineering experience on a range of SATCOM programs and technologies
  - **Responsibilities:** Conducting trade studies on phased array design optimization, link budget analysis, satellite coverage map modelling (MATLAB), full scale requirement development and related processes, managing/organizing small working groups, attended customer meeting (TIM) in Dallas where my trade studies were presented, acting as DOORS lead on current program – oversee/execute all DOORS-specific tasks (exporting, updating etc.)
- **Marine Operations Engineer Intern**, General Dynamics Mission Systems; Bluefin Robotics business unit. Summer 2016, Summer 2017. Quincy, MA
  - Worked closely in teams consisting of marine operations, mechanical, systems, software, and manufacturing engineers to develop, build, and operate Autonomous Underwater Vehicles (AUVs).
  - **Responsibilities:** Offshore and dockside testing, collection and analysis of sonar, control, and dynamics data mission planning, vehicle operation/communication, execution of pre/post dive safety checks, troubleshooting electrical and mechanical systems
- **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. ('13-'15 worked as Commissioner/Supervisor/Referee)
  - Managed all Commissioners, supervisors, and referees, scheduled all games for all sports leagues
- **Philanthropy Chair**, Alpha Tau Omega (Alpha Upsilon Chapter), Gettysburg College. Winter 2015-Spring 2016

## Other Experience

- Course Audits (Coursera): Control of Mobile Robots (Georgia Tech), Aerial Robotics (UPenn), C++ guided projects
- Community service: Annual awards for 25, 50 hours ('10, '11), Acton Congregational Church Mission Trip to Brooklyn ('11)
- Sports: Varsity Basketball Captain 2012-13 ABRHS, Exeter University Basketball Club 2018, Elevation AAU Basketball coach ('18-'20), Club Soccer, Gettysburg College