

# BRIAN LOUGHRAN

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## EDUCATION

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### **Lehigh University**

B.S. Mechanical Engineering with Honors  
Minor in Aerospace Engineering  
Minor in Business

2013 - 2017

GPA - 3.5

## EXPERIENCE

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### **Pratt & Whitney**

*Software Engineer, Compression Systems Engineering*

July 2017 - Present

*East Hartford, CT*

- Test driven development utilized to build a preprocessor application for DART (Whatever.Dart.Stands.For), a tool used by airfoil structures to reduce design iteration time.
- Employed Agile framework and scrum to develop a lightweight file inspection package within the environment of Airfoil 2.0 (an automated inspection for measured manufactured airfoil sections).

### **Lehigh University**

*Research Assistant*

January 2017 - May 2017

*Bethlehem, PA*

- Utilized finite element analysis in ADINA to model the structural integrity in the healing zone of sheep tibia based on medial and lateral x-rays. Element octahedral and hydrostatic strain values used to evaluate predicted tissue behavior in the callus zones.

### **Pratt & Whitney**

*Process Engineer, Cold Section Engineering*

June 2016 - August 2016

*East Hartford, CT*

- Built and implemented a classification tool for data re-use of over 18,000 high volume external jet engine components. Successfully campaigned across numerous groups to gather support resulting in \$25,000 in funding for cross-organizational implementation of the tool as standard work.

### **Aesculap Spine**

*New Product Development*

January 2016 - October 2016

*Center Valley, PA*

- Worked in a team of five to create a medical grade parallel distracter device for surgical repair of degenerative disc disease in the lower spine. Thorough business case built for the product, including working prototype, FEA analysis, IP research, cost estimate and cash flow forecast.

### **Alcatel-Lucent Bell Labs**

*Thermal Design Engineer*

June 2015 - August 2015

*Providence, NJ*

- Designed and fabricated a wind tunnel for thermal flow characterization over advanced 4G LTE and eventual 5G products. Thermal chamber testing employed to determine the maximum rated temperature. Acoustic testing of noise levels performed on cooling fans in fully anechoic chamber.

### **Lehigh University**

*Teaching Assistant*

August 2014 - December 2014

*Bethlehem, PA*

- Supported professor in teaching MATLAB and Arduino programming languages in Lehigh University's Applied Engineering Computer Methods class. Bi-weekly responsibilities included assisting students in analysis and debug of hardware and software components of electro-mechanical systems.

## LEADERSHIP

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**Treasurer** (*Lehigh Ice Hockey*)

August 2014 - May 2017

- Budgeted team funds of \$80,000, and forecasted future costs to ensure smooth operation of the club.

**Presentation Day Coordinator** (*Alcatel-Lucent*)

August 2015

- Elected by fellow interns to organize and host the end-of-summer intern presentations.

**Intellectual Development Chair** (*Kappa Sigma, Beta Iota*)

April 2014 - October 2015

- Introduced 5 bi-annual scholarships to recognize students of high academic standing.

## TECHNICAL SKILLS

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**Computer Languages**

Python, Java, C/C++, MATLAB

**Solid Modeling**

SolidWorks, NX, Pro/Engineer

**Finite Element Analysis**

ADINA, ANSYS, Autodesk Mechanical

**Tools**

Github, Zenhub, Arduino LabVIEW, SIMULINK