**Justin J. Beland**                                                     Toronto, Canada
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## Education

- **University of Toronto**                                              Toronto, ON
  *Ph.D., Institute for Aerospace Studies*                  *September 2016 – Present*
- **University of Toronto**                                              Toronto, ON
  *M.Eng., Institute for Aerospace Studies*                *January 2014 – June 2016*
- **Western University**                                                 London, ON
  *B.Sc., Physics*                                        *September 2009 – April 2013*
- **Western University**                                                 London, ON
  *B.E.Sc., Structural Engineering*                       *September 2007 – April 2013*

## Research

- **Bayesian Optimization Under Uncertainty**                 *September 2016 – Present*
  The primary focus of my work is concerned with the development of efficient probabilistic approaches for intelligent systems to make sequential decisions under uncertainty. This work extends the architecture of Bayesian optimization to cases where the parameters governing the objective function are random.

- **Data-Driven Particle Swarm Optimization Using Surrogates**     *September 2015 – June 2016*
  In this project I developed a particle swarm optimization algorithm to be used as part of an internal code in the Computational Modeling and Design Optimization Under Uncertainty group at the University of Toronto. We applied this strategy to optimize a Gaussian process regression model simulating a function.

## Work Experience

- **Researcher, Numeric Methods Group, Pratt & Whitney Canada**     *May 2017 – Present*
  Within a team of scientists, physicists and engineers, I test tractable Bayesian strategies for optimization under uncertainty to obtain aircraft engine designs that are robust to variations in the environment.

- **Teaching Assistant & Skule Tutor, University of Toronto**       *Jan 2014 – Present*
  I instruct students in engineering and computer science the fundamentals of the `Python` programming language. My tutoring experience includes engineering, calculus, physics and computer programming.

- **Consultant, Focal Healthcare**                                   *July 2016 – Jan 2017*
  In collaboration with a team of medical professionals, scientists and engineers, I implemented an automated system to verify the compliance of patient information using DICOM standards in C`#`. The purpose of this project was to automatically transmit mixed data structures to medical imaging devices used for prostate cancer detection.

- **Contractor, Compressor Engineering, Pratt & Whitney Canada**     *Aug 2015 – Jan 2016*
  As a member of a multidisciplinary team, I utilized data-mining techniques to extract and analyse unstructured data. Using this data, we trained Gaussian process models using in-house distributed systems.

## Skills

**Languages:** C++, C#, Python, MATLAB, HTML                           English, French

**Operating Systems:** Linux, Mac OS X, UNIX, Windows

## Publications

[1]   J. J. Beland and P. B. Nair, "Bayesian optimization under uncertainty," *Proceedings of the NIPS workshop for Bayesian optimization for science and engineering*, 2017.

## Open Source Projects

**2015–Present**  Gitlab, GitHub