# KELVIN LEUNG

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## EDUCATION

**Massachusetts Institute of Technology** **2019 – Present**
*S.M. in Aeronautics and Astronautics, GPA: 5.0/5.0*
Uncertainty Quantification (UQ) Group

**University of Toronto** **2015 – 2019**
*B.ASc. in Engineering Science, Major in Aerospace Engineering, GPA: 3.95/4.00*

## WORK EXPERIENCE

**Massachusetts Institute of Technology** **Jan. 2020 – Present**
*Research Assistant, Dept. of Aeronautics and Astronautics, partnered with NASA Jet Propulsion Laboratory*

- Project objective to develop Bayesian methods for Earth remote sensing applications that are sufficiently fast for operations.
- Develop approximations of radiative transfer models using machine learning techniques.
- Investigate methods of dimension reduction.
- Implement Markov chain Monte Carlo (MCMC) algorithms using these structures to accelerate posterior sampling.

*Teaching Assistant (Aerodynamics), Dept. of Aeronautics and Astronautics* **Sept. – Dec. 2019**

- Held weekly recitation sessions, office hours and provided external assistance to students as needed.
- Devised weekly problem sets and course project.

**University of Michigan** **May – August 2018**
*Research Assistant, Dept. of Aerospace Engineering*

- Project to create an open-sourced airfoil design tool that performs airfoil analysis and optimization using a surrogate model.
- Performed computational fluid dynamics (CFD) analysis for airfoils and compiled results into database.
- Conducted mesh refinement studies to validate CFD results.
- Performed airfoil optimization and created a comprehensive tutorial for airfoil optimization within the lab framework.

**German Aerospace Center (DLR)** **May – August 2017**
*Research Intern, Institute of Propulsion Technology*

- Implemented various signal processing methods for wave number decomposition.
- Validated signal processing methods with analytic signals and applied the methods to experimental acoustic data from measurements inside aircraft engine ducts.

**University of Toronto Institute for Aerospace Studies (UTIAS)** **May – August 2016**
*Research Assistant*

- Project objective to develop an optimization program that outputs propeller designs for unmanned aerial vehicle (UAV) quadcopters given specified flight conditions.
- Developed a program to compute the performance model of a propeller, including propeller thrust and efficiency, given its geometric parameters.

## PROJECTS

**Aerospace Design Projects** **2018 – 2019**

- Designed and constructed a remotely piloted aircraft to minimize a multi-objective cost function.
- Systems design for orbiting space telescope using a top-down approach, including the electrical, GNC, data, and structures subsystems, partnered with MDA Corp. Developed sets of requirements and performed trade studies.

**Construction of Autonomous Robot** **January – April 2017**

- Designed and prototyped a fully autonomous robot that sorts cans for recycling.
- Responsible for implementation of digital and analog interfacing electronics, including circuit design and wiring.
- Placed **1st** in the final competition in a semester-long engineering design course.

## SKILLS

**Languages**: Fluent in English, Mandarin, Cantonese; conversational in French, Korean
**Programming Languages**: Python, MATLAB, C, Java