






# Nathaniel Price

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## Education

2016	<b>Joint Ph.D. Mechanical Engineering</b> Saint-Étienne, Rhône-Alps, France	École des Mines de Saint-Étienne
2016	<b>Joint Ph.D. Mechanical Engineering</b> Gainesville, Florida, US	University of Florida
2014	<b>Graduate Certificate in Scientific Computing</b> Gainesville, Florida, US	University of Florida
2014	<b>M.S. Mechanical Engineering</b> Gainesville, Florida, US	University of Florida
2012	<b>B.S. Mechanical Engineering</b> Gainesville, Florida, US	University of Florida

## Experience

2016 - present	<b>Data Scientist / Post-doctoral Research Associate</b> Lincoln, Nebraska, US	University of Nebraska-Lincoln
	<ul style="list-style-type: none"><li>• Developed new method to predict customer retention and purchase probabilities with individual level granularity (applied to 1.2 million purchase records)</li><li>• Designed, developed, and deployed web-based data analysis application in R for exploratory data analysis of SQL customer database</li></ul>	
2014 - 2016	<b>Ph.D. Student Researcher</b> Palaiseau, Île-de-France, France	ONERA - The French Aerospace Lab
	<ul style="list-style-type: none"><li>• Developed a novel method for optimal design of sounding rocket under uncertainty that incorporated risk of future redesign into design optimization</li></ul>	
2012 - 2016	<b>Graduate Research Assistant</b> Gainesville, Florida, US	University of Florida
	<ul style="list-style-type: none"><li>• Integrated machine learning (e.g., Gaussian process) and optimization to design engineering systems considering uncertainty in future decision making process</li><li>• Collaboratively developed optimization-based solution to The NASA Langley Multidisciplinary Uncertainty Quantification Challenge (2014)</li></ul>	

## Select Awards

2013	Knox T. Millsaps Outstanding Undergraduate Paper Award
2012	Biomedical Engineering Society (BMES) Design and Research Award

## Select Publications

1. Price, NB, M Balesdent, S Defoort, RL Riche, NH Kim, and RT Haftka (Apr. 2019). Safety-margin-based design and redesign considering mixed epistemic model uncertainty and aleatory parameter uncertainty. *arXiv:1904.08978 [stat]*.
2. Balesdent, M, L Brevault, NB Price, S Defoort, R Le Riche, NH Kim, RT Haftka, and N Bérend (2016). "Advanced Space Vehicle Design Taking into Account Multidisciplinary Couplings and Mixed Epistemic/Aleatory Uncertainties". In: *Space Engineering: Modeling and Optimization with Case Studies*. Ed. by G Fasano and JD Pintér. Cham: Springer International Publishing, pp.1-48. [https://doi.org/10.1007/978-3-319-41508-6\\_1](https://doi.org/10.1007/978-3-319-41508-6_1).

## Software

1. Price, N and J Burnett (Mar. 2019). *tvdiff - An R Package for performing total variation regularized differentiation*. (lifecycle: experimental). <https://github.com/natbprice/tvdiff>.

## Previous Experience

2011 - 2012	Undergraduate Research Assistant, University of Florida, Gainesville, Florida, US
2010 - 2011	Launch Engineer Intern, SpaceX, Cape Canveral, Florida, US
2009 - 2010	Undergraduate Research Assistant, University of Florida, Gainesville, Florida, US
2005 - 2010	Engineer Intern, E&S Consulting, Inc., St. Augustine, Florida, US