Nathaniel Price

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Education

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

Experience

2016 - present **Post-doctoral Research Associate** — University of Nebraska-Lincoln
Lincoln, Nebraska, US

- Developed new method of analyzing repeat-purchase data to incorporate spatial, temporal, and demographic covariates into analysis of 1.2 million purchase records
- Built exploratory data analysis web application in R for SQL customer database (4 GB) to provide interactive visualizations and export data summaries and graphics

2014 - 2016 **Ph.D. Student Researcher** — ONERA
Palaiseau, Île-de-France, France

- Developed a novel method for optimal design of sounding rocket under uncertainty that incorporated risk of future redesign into design optimization

2012 - 2016 **Graduate Research Assistant** — University of Florida
Gainesville, Florida, US

- Integrated machine learning (e.g., Gaussian process), optimization, and uncertainty propagation to design engineering systems considering future decision making process
- Collaboratively developed optimization-based method for The NASA Langley Multidisciplinary Uncertainty Quantification Challenge (2014)

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.

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