Nathaniel Price

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Education

2016 **Joint Ph.D. Mechanical Engineering** — University of Florida
Gainesville, Florida, US and Saint-Étienne, Rhône-Alps, France — École des Mines de Saint-Étienne

2014 **Graduate Certificate in Scientific Computing** — University of Florida
Gainesville, Florida, US

2014 **M.S. Mechanical Engineering** — University of Florida
Gainesville, Florida, US

2012 **B.S. Mechanical Engineering** — University of Florida
Gainesville, Florida, US

Experience

Sep 2016 - present **Data Scientist** — University of Nebraska-Lincoln
Lincoln, Nebraska, US

- Developed new method to predict customer retention and purchase probabilities with individual level granularity (applied to 1.2 million purchase records)
- Designed, developed, and deployed web-based data analysis application in R for exploratory data analysis of SQL customer database

Oct 2014 - Mar 2016 **Ph.D. Student Researcher** — ONERA - The French Aerospace Lab
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

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

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

Awards

2013 Knox T. Millsaps Outstanding Undergraduate Paper Award
2012 Biomedical Engineering Society (BMES) Design and Research Award
2009 American Institute of Aeronautics & Astronautics (AIAA) Foundation Junior Scholarship

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.
3. Price, NB, NH Kim, RT Haftka, M Balesdent, S Defoort, and R Le Riche (Sept. 2016). Deciding Degree of Conservativeness in Initial Design Considering Risk of Future Redesign. *Journal of Mechanical Design* **138**(11), 111409–111409–13.

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