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

May 2020 - present **Senior Data Scientist** — ICF
Golden, Colorado, US
- Developed cloud infrastructure and data science processes for scalable analysis of billions of records of utility smart meter data
- Researched and developed statistical methods for energy disaggregation

Oct 2019 - May 2020 **Data Scientist** — ICF
Golden, Colorado, US

Sep 2016 - Oct 2019 **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)

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.
4. Chaudhuri, A, G Waycaster, N Price, T Matsumura, and RT Haftka (Jan. 2015). NASA Uncertainty Quantification Challenge: An Optimization-Based Methodology and Validation. *Journal of Aerospace Information Systems* **12**(1), 10–34.

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.