Nathaniel Price

335 S. 46th St. Lincon, NE 68510
natbprice DayduhScientist +1 904 315 2486 natbprice@gmail.com natbprice

Education

2014 - 2016 **Ph.D. Mechanical Engineering** — École des Mines de Saint-Étienne
Saint-Étienne, Rhône-Alps, France

2012 - 2016 **Ph.D. Mechanical Engineering** — University of Florida
Gainesville, Florida, US

2012 - 2014 **Graduate Certificate in Scientific Computing** — University of Florida
Gainesville, Florida, US

2012 - 2014 **M.S. Mechanical Engineering** — University of Florida
Gainesville, Florida, US

2010 - 2012 **B.S. Mechanical Engineering** — University of Florida
Gainesville, Florida, US

Experience

2016 - present **Post-doctoral Research Associate** — University of Nebraska-Lincoln
Lincoln, Nebraska, US
- Data scientist for human dimensions research group
- Mentor graduate students and train students in statistical analysis techniques
- Developed exploratory data analysis web application in R for SQL sportsperson customer database

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 NASA Uncertainty Quantification Challenge

2014 - 2016 **Ph.D. Student Researcher** — ONERA
Palaiseau, Île-de-France, France
- Developed and applied a novel method for optimal design of sounding rocket under uncertainty
- Co-authored book chapter on space vehicle design under uncertainty

2011 - 2012 **Undergraduate Research Assistant** — University of Florida
Gainesville, Florida, US
- Developed Python code for parameterized finite element modeling of rigid sternal fixation
- Analyzed effects of patient variability and plate designs on stability of sternal fixation
- Presented award winning research at top conferences

2010 - 2011 **Launch Engineer Intern** — SpaceX
Cape Canveral, Florida, US
- Performed maintenance of launch vehicle ground systems
- Assisted in rollout and launch of Falcon 9 and Dragon spacecraft

2005 - 2010 **Engineer Intern** — E&S Consulting, Inc.
St. Augustine, Florida, US
- Assisted with failure analysis investigations (inspections, materials testing, reports, research)

2009 - 2010 **Undergraduate Research Assistant** — University of Florida
Gainesville, Florida, US
- Developed Matlab code for compliance correction of compression / tensile strength test data
- Machined magnesium tensile strength test specimens

Publications

Journal Articles and Book Chapters

1. 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.
2. 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.
3. 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.

Conference Papers

1. Price, NB, M Balesdent, S Defoort, R Le Riche, NH Kim, and RT Haftka (Jan. 2016). Simulating Future Test and Redesign Considering Epistemic Model Uncertainty. In: *18th AIAA Non-Deterministic Approaches Conference*. AIAA SciTech Forum. American Institute of Aeronautics and Astronautics. https://doi.org/10.2514/6.2016-0950.
2. Chaudhuri, A, G Waycaster, T Matsumura, NB Price, and RT Haftka (Jan. 2014). Framework for Quantification and Risk Analysis for Layered Uncertainty using Optimization: NASA UQ Challenge. In: *16th AIAA Non-Deterministic Approaches Conference*. AIAA SciTech Forum. American Institute of Aeronautics and Astronautics. https://doi.org/10.2514/6.2014-1498.
3. Price, NB, T Matsumura, RT Haftka, and NH Kim (Jan. 2014). Deciding How Conservative A Designer Should Be: Simulating Future Tests and Redesign. In: *16th AIAA Non-Deterministic Approaches Conference*. AIAA SciTech Forum. American Institute of Aeronautics and Astronautics. https://doi.org/10.2514/6.2014-1010.
4. Berry, AJ, ES George, and NB Price (Dec. 2007). Fire Damage Remediation of a Steel Box Aerial Guideway Girder on Miami-Dade Transit’s Metrorail System. In: New Orleans, Louisiana: American Institute of Steel Construction.

Oral Presentations

1. Hinrichs, M, N Price, C Chizinski, and M Vritiska (Jan. 2018). *Nebraska Waterfowl Hunters: Where do they go?* Milwaukee, Wisconsin.
2. Price, N, C Chizinski, J Fontaine, and K Pope (Jan. 2018). *Retention of Youth Deer Hunters in Nebraska*. Milwaukee, Wisconsin.
3. Price, N, C Chizinski, M Hinrichs, K Pope, and J Fontaine (Sept. 2018). *Transitions among sportsperson permit holders and the influence of cross-buying behavior*. Goslar, Germany.
4. Grams, A, N Price, C Chizinski, J Fontaine, and K Pope (Feb. 2017). *Exploring Linkages between Hunting and Fishing Permit Sales*. Lincoln, Nebraska.
5. Grams, A, N Price, C Chizinski, J Fontaine, and K Pope (Sept. 2017). *Permit Associations of Nebraska Sportspersons*. Estes Park, Colorado.

Conference Posters

1. Price, NB, NH Kim, B Wilcox, and B Hatcher (Aug. 2012). Design Study on Stability & Safety of Median Sternotomy Fixation. In: vol. 79. Gainesville, Florida: American Society of Biomechanics, pp.67. http://www.asbweb.org/conferences/2012/abstracts/95.pdf.
2. Price, NB, NH Kim, B Wilcox, and B Hatcher (Oct. 2012). The Effects of Cortical Thickness, Bone Strength, & Screw Length on Rigid Sternal Fixation Stability. In: Atlanta, Georgia: Biomedical Engineering Society.

Software (Github: natbprice)

1. Price, N, C Chizinski, and J Burnett (Mar. 2019). *radsets - An R Package for creating Radial Sets diagrams*. (lifecycle: experimental). https://natbprice.github.io/radsets/.
2. Price, N and J Burnett (Mar. 2019). *tvdiff - An R Package for performing total variation regularized differentiation*. (lifecycle: experimental). https://github.com/natbprice/tvdiff.