Robert D. Leonard

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Education

Ph.D. Systems Modeling and Analysis
Virginia Commonwealth University, August 2015
Dissertation: *Considerations for Screening & Follow-Up Experimentation*

B.S. Ed Integrated Mathematics Education
Ohio University, November 2003

Work Experience

Assistant Teaching Professor (August 2019 – present)
Visiting Assistant Professor (August 2015 – 2019)
Miami University, Department of Information Systems and Analytics

- Business Statistics (ISA 205, ISA 125)
- Business Analytics (ISA 225)
- Statistical Monitoring and Design of Experiments (ISA/STA 365)
- Data Discovery & Business Analytics for Managers (ISA 641)

Doctoral Research Assistant (August 2012 – 2015)
Virginia Commonwealth University, Dept. of Statistical Sciences and Operations Research

- Grant funded by National Institute of Aerospace/NASA, Langley Research Center
- Researched, formulated, and implemented theoretically sound data analysis plans in support of Air Traffic Management Technology Demonstration – 1 (ATD-1)
- Analysis of human-in-the-loop experiments with a focus on using a statistical engineering approach to solve complex systems

Summer Intern (May 2012 – August 2012)
NASA, Goddard Space Flight Center

- Worked within a team partnership between the National Institute of Standards and Technology (NIST) and NASA to advance space applications for radiometers
- Investigated techniques for calculating confidence limits on variance calculations for characterizing the stability of radiometers with multiple signals mixed with noise references

Graduate Teaching Assistant (August 2011 – May 2012)
Virginia Commonwealth University, Dept. of Statistical Sciences and Operations Research

- Conducted weekly lab activities for online sections of STAT 208, an introductory statistics course for non-science majors

Mathematics Teacher (August 2010 – August 2011)
Alleghany Public Schools, Alleghany High School

- Taught multiple sections of Algebra and Geometry
- Forensics Club co-sponsor: coached students to exercise and refine their communication skills by competing at the local and state level in areas such as storytelling and current affairs

Mathematics Teacher (August 2008 – August 2010)
Chesterfield County Public Schools, Matoaca High School

- Taught multiple sections of Geometry and Honors Geometry
- Conducted after-school tutoring sessions and provided support for homeschooling students
- Robotics Team co-sponsor: coached students to design, build, and computer code robots by competing in the internationally recognized *FIRST* Tech Challenge

Publications

1. Dalatsara, H.A., Chen, Y-J, **Leonard, R.D.**, Megahed, F.M., and Jones-Farmer. L.A. (2021). Explaining Predictive Models: An Experimental Study of Data Preparation and Model Choice on Predictive Performance. *Big Data, Jun; 11(3):199-214.*
2. Wilson, S. R., **Leonard, R.D.**, Edwards, D. J., Swieringa, K. A., and Underwood, M. C. (2018). "Inference for Under-Dispersed Data: Assessing the Performance of an Airborne Spacing Algorithm". *Quality Engineering*
3. **Leonard, R.D.**, and Edwards, D.J. (2017). Bayesian *D*-Optimal Screening Experiments with Partial Replication. *Computational Statistics and Data Analysis*, 115, 79-90.
4. Wilson, S.R., Swieringa, K.A., **Leonard, R.D.**, Freitag, E., and Edwards, D.J. (2016). Statistical Engineering Approach to Improve the Realism of Computer Simulated Experiments with Aircraft Trajectory Clustering. *Quality Engineering*, 29(2), 167-180.
5. Barmore, B.E., Swieringa, K.A., Underwood, M., Abbott, T., and **Leonard, R.D.** (2016). Development of an Interval Management Algorithm using Ground Speed Feedback for Delayed Traffic. AIAA Guidance, Navigation, and Control Conference, AIAA Paper 2016-1851, San Diego, CA, January 4-8.
6. Wilson, S.R., **Leonard, R.D.**, Edwards, D.J., Swieringa, K.A., and Murdoch, J.L. (2015). Model Specification and Confidence Intervals for Voice Communication. *Quality Engineering*, 27(4), 402-415.
7. Swieringa, K.A., Underwood, M.C., Barmore, B., and **Leonard, R.D.** (2014). An evaluation of a flight deck interval management algorithm including delayed target trajectories. AIAA Aviation Technology, Integration, and Operations Conference, AIAA Paper 2014-3148, Atlanta, GA, June, pp. 16-20.

Presentations

1. Contributed Session, Strategic Management Society Annual Conference, October 2019, Minneapolis, MN, "Boomerangs and Multiple Movers in Knowledge Intensive Context: A Comparison of Post Hiring Productivity."
2. Plenary Session, People and Organizations Conference, October 2018, The Wharton School, Philadelphia, PA, "Homophily in the Factor Market for Talent: Performance Effects of Focused Sourcing."
3. Poster Session, Pilot Research Project Symposium (PRP), October 2018, University of Cincinnati, Cincinnati, OH, "Predicting changes in driving safety performance on an individualized level under naturalistic driving conditions."
4. Poster Session, Design and Analysis of Experiments, March 2015, Cary, NC, "Considerations for Follow-Up Experimentation."
5. Poster Session, Southern Regional Conference on Statistics (SRCOS), June 2014, Galveston, TX, "Simultaneously Optimized Follow-Up Designs Using a Pareto Front Approach."
6. Contributed Session, Fall Technical Conference, October 2013, San Antonio, TX, "Model Specification and Confidence Intervals for Voice Communication."
7. Poster Session, Southern Regional Conference on Statistics (SRCOS), June 2013, Burns, TN, "Model Specification and Confidence Intervals for Voice Communication."

University Service
- Liberal Education Council, 2018 – present
- CADS Faculty Fellow, 2021 – 2023
- Global Miami Plan Strategic Planning Group, 2019 – 2022
- Volunteer for Miami DataFest, 2018 – 2022
- Intercultural/Global Perspectives Committee, Fall 2020
- Pilot project volunteer to access Foundation IIIB learning outcomes for online courses, Fall 2020
- Creation and management of online learning resources in support of CADS and the EY Learning Lab – 2016, 2017
- DataFest Planning Committee – 2016, 2017
- Volunteer for Careers Involving Quantitative Skills (CIQS) – 2016

Departmental Service
- Assessment Committee, 2020 - present
- Honors Extension Mentor, Spring 2020

Grants
- NIOSH-UC Grant (awarded and awaiting processing) for the Pilot Project Research Training Program (PRP) on "Predicting changes in driving safety performance on an individualized level under naturalistic driving conditions," July 2018 – June 2019, $4,642, P.I.

Awards/Nominations
- 2019, 2021, 2022, 2023 Outstanding Professor Award Nominee
- 2018 Richard K. Smucker Teaching Excellence Award Nominee