Sean M. Tomlin

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Education

The Ohio State University **Aug. 2020 – Expected May 2025**
Doctor of Philosophy in Biostatistics *Columbus, Ohio*

The Ohio State University **Aug. 2020 – May 2022**
Master of Science in Statistics *Columbus, Ohio*

Wright State University **Aug. 2016 – May 2020**
Bachelor of Science in Statistics *Dayton, Ohio*

Relevant Coursework

- Advanced Statistical Theory
- Theory of the Linear Model
- Applied Bayesian Analysis
- Generalized Linear Models
- Biostatistical Collaboration
- Epidemiology
- Causal Inference
- Advanced Computational Statistics
- Advanced Survival Analysis

Experience

National Aeronautics and Space Administration **May 2020 – August 2020**
Research Intern *Hampton, Virginia*

- Incorporated scripts using Python and Bash scripting to interface with Sandia DAKOTA software for evaluation of an uncertainty quantification method.
- Evaluated efficacy of developed bootstrap method for uncertainty quantification of surrogate model in a computational fluid dynamics application.
- Explored ways to collaborate effectively in a virtual professional environment.

Scientific Test and Analysis Techniques Center of Excellence **May 2019 – August 2019**
Statistician Intern *Wright-Patterson Air Force Base, Ohio*

- Integrated with a team of mathematicians, statisticians, and engineers at the Air Force Institute of Technology to support test & evaluation programs with rigorous methods.
- Learned the scientific test and analysis techniques process and how it applies to defense programs.
- Applied design of experiments theory in Department of Defense (DoD), Department of Homeland Security (DHS).
- Developed R-Shiny Web Applications for DHS and created user guide; Satisfied customer needs and deployed application.

Projects

Uncertainty Quantification and Surrogate Modeling | *Unix, Python, Sandia DAKOTA* **August 2020**

- Implemented bootstrap confidence interval procedure for use in uncertainty quantification of surrogate models in a hyper-sonic air breathing propulsion system.
- Determined efficacy of method via simulation study, identified areas of weakness in the method.

Female Body Armor **August 2019**

- Build a test plan to improve female body armor for Air Force base security forces.
- Employed experimental design to identify testable questions and developed factors and responses.
- Created, distributed, and analyzed a questionnaire to identify problems in female body armor.

Confidence Intervals for Availability Time | *R, R Shiny, JMP* **August 2019**

- Wrote and deployed an R-Shiny application for use by reliability professionals in DoD, DHS.
- Used bootstrap and Monte Carlo simulation to generate a lower confidence limit on availability time using fail, repair, and logistics delay time testing data .
- Performed coverage testing to validate procedure assumptions using Python and JMP.
- Enabled reproducible reports using R-markdown and latex documents

Technical Skills

Languages: R, Python, SQL, C, SAS
Developer Tools: R Studio, VS Code
Technologies/Frameworks: Linux, GitHub

Professional Development

American Statistical Association **2021**
Student Member