ANDREW COOPER

CONTACT INFO

Department of Statistics
Virginia Tech

Hutcheson Hall, 250 Drillfield Drive
Blacksburg, VA 24061, USA

E-mail: ahcooper@vt.edu
Homepage: https://andrewdjac.github.io

RESEARCH INTERESTS

The design and analysis of computer experiments including nonstationary surrogates, uncertainty quantification, active learning, optimization, calibration, and reliability.

Computing and statistical inference with a focus on computer experiments and uncertainty quantification. Introducing sound statistical theory to machine learning and artificial intelligence applications for the purposes of making them more accurate, reliable, and interpretable. Bolstering technical projects by quantifying model uncertainty and risk.

EDUCATION

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
Ph.D. Statistics, March 2026, advised by Robert B. Gramacy
Dissertation: *Latent Gaussian Process Surrogates for Non-Gaussian Response Surface Modeling*

DUKE UNIVERSITY
M.S. Statistics, May 2020, advised by Alexander Volfovsky
B.S. Statistical Science, May 2018
B.S. Computer Science, May 2018

HONORS & AWARDS

ASA Section on Statistics in Defense and National Security Student Paper Award; 2026
Virginia Tech Jean D. Gibbons Fellowship; 2023
Duke Undergraduate Teaching Assistant Award Nominee; 2018

IN REVIEW

Cooper, A., Strait, J., Dorn, M. F., Gramacy, R. B., Parsons, B. P., & Cattaneo, A. (2025). Robust Wrapped Gaussian Process Inference for Noisy Angular Data. arXiv:2512.00277.

PEER-REVIEWED PAPERS

Cooper, A., Booth, A. S., & Gramacy, R. B. (2025). Modernizing full posterior inference for surrogate modeling of categorical-output simulation experiments. *Quality Engineering, 38*(1): 91-110.

Sauer, A., **Cooper, A.**, & Gramacy, R. B. (2023). Vecchia-approximated deep Gaussian processes for computer experiments. *Journal of Computational and Graphical Statistics, 32*(3), 824-837. arXiv:2204.02904

OTHER PUBLICATIONS

Booth, A. S., **Cooper, A.**, & Gramacy, R. B. (2024). Nonstationary Gaussian process surrogates. *Handbook of Uncertainty Quantification, to appear*; arXiv:2305.19242

OPEN SOURCE SOFTWARE

`wrapgp`: An R–package for wrapped Gaussian Process (WGP) modeling.
https://github.com/lanl/wrapgp/tree/main

`glam`: An R–package for Generalized Linear And Additive ("GLAM") modeling.
https://CRAN.R-project.org/package=glam

TALKS & SEMINARS

Key: **IT** ≡ Invited Talk ≈ 30m; **ST** ≡ Speed Talk 8m; **P** ≡ Poster

Wrapped Gaussian Processes for RFID Localization

IT	July 2025	**Quality and Productivity Research Conference**, Seattle, WA

Deep Gaussian Processes for Classification Tasks

IT	Oct 2024	**Fall Technical Conference**, Nashville, TN
P	March 2024	**SIAM Conference on Uncertainty Quantification**, Trieste, Italy
P	March 2023	**Spring Research Conference**, Banff, Calgary

Robust Wing Design Optimization

ST	April 2024	**Defense and Aerospace Test and Analysis Workshop**, Alexandria, VA

OTHER EMPLOYMENT

LOS ALAMOS NATIONAL LABORATORY: statistics intern; June 2024 - Present

NASA LANGLEY RESEARCH CENTER: graduate research assistant; June - September 2023

AEROSPACE CORPORATION: reliability and statistics intern; June - August 2022

LECTURING

STAT 3704 STATISTICS FOR ENGINEERING APPLICATIONS, VIRGINIA TECH: undergraduate statistics and probability course for engineering students. Weekly 50-minute lectures; Spring 2022.

SERVICE

Mu Sigma Rho, Vice President of Virginia Tech Chapter; 2023-2025