

# Wilson Gregory

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## EDUCATION:

**Johns Hopkins University**, Baltimore, MD. 3rd Year PhD Student, Applied Math and Statistics 2021-Present

- **Advisor:** Soledad Villar

**Rensselaer Polytechnic Institute (RPI)**, Troy, NY. B.S. in Computer Science and Mathematics 2018

- **GPA: 3.89**, Graduated *Magna Cum Laude*

## PUBLICATIONS:

\* indicates equal contribution

### **Journal Publications:**

- **MarkerMap: nonlinear marker selection for single-cell studies**, W.G. Gregory\*, N. Sarwar\*, G.A. Kevrekidis\*, S. Villar, B. Dumitrescu, NPJ Systems Biology and Applications. 2024

### **Workshop Papers:**

- **Robust emulator for compressible navier-stokes using equivariant geometric convolutions**, W.G. Gregory, D.W. Hogg, K.W.K. Wong, and S. Villar. NeurIPS ML4PS workshop. 2024
  - Won Best Paper Award for the ML4PS Workshop

### **Preprints**

- **Learning equivariant tensor functions with applications to sparse vector recovery**, W.G. Gregory, J. Tonelli-Cueto, N.F. Marshall, A.S. Lee, S. Villar, [arXiv:2406.01552](https://arxiv.org/abs/2406.01552) 2024
- **Equivariant geometric convolutions for emulation of dynamical systems**, W.G. Gregory, D.W. Hogg, B. Blum-Smith, M.T. Arias, K.W.K. Wong, S. Villar, [arXiv:2305.12585](https://arxiv.org/abs/2305.12585) 2024

## INVITED TALKS AND WORKSHOPS:

- **Princeton Machine Learning Theory Summer School** 2024
- **BIRS-CMO Mathematics of Deep Learning Workshop** 2024
- **Machine Learning for Science: Mathematics at the Interface of Data-driven and Mechanistic Modelling**, Mathematisches Forschungsinstitut Oberwolfach Workshop 2324 2023
- **Carl-Zeiss-Stiftung Summer School, Scientific Machine Learning for Astrophysics** 2023
- **AMS Special Session on Harmonic Analysis and its Applications to Signals and Information III**, AMS Spring Sectional Meeting 2023

## GRANTS AND AWARDS:

- **NeurIPS ML4PS Best Paper Award** 2024
- **Duncan Research Award**, Travel Grant to attend NeurIPS 2024
- **US Junior Oberwolfach Fellow**, Travel Award \$1000 2023
- **RPI IDEA Datathon**, First Place Team \$1500 2018
- **RPI IDEA Datathon**, Honorable Mention Team \$500 2017

## TEACHING AND MENTORSHIP:

Johns Hopkins University

- **Instructor**, HEART: Improving Climate Change Models with Machine Learning (EN.500.111) 2024
- **Graduate Teaching Assistant**, Software Engineering for Data Science (EN.553.689) 2024
- **WISE Mentor**, Project “Charged Particles Machine Learning Emulator” 2024
- **WISE Mentor**, Project “Detecting Gerrymandering Using Computer Algorithms” 2022
- **Graduate Teaching Assistant**, Topics in Trustworthy Machine Learning (EN.553.799) 2022
- **Graduate Teaching Assistant**, Multilinear Algebra (EN.553.694) 2021

Rensselaer Polytechnic Institute

- **Undergraduate Teaching Assistant**, Data Structures (CS 1200) 2015-2018

**PROFESSIONAL EXPERIENCE:**

Cut+Dry, San Francisco, CA

**Senior Software Engineer**

2020-2021

**Software Engineer**

2018-2020

U.S. Department of Defense, MD

**Computer Science Intern**

2017

General Dynamics Mission Systems, Taunton, MA

**Software Quality Assurance Intern**

2016