Ronan Perry

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Education

Johns Hopkins University — *Baltimore, MD*
M.S.E. Biomedical Engineering — *May 2020*

- **GPA:** 4.0/4.0
- **Thesis:** *Manifold-aware Forests: Closing the Gap to Convolutional Neural Networks*

Johns Hopkins University — *Baltimore, MD*
B.S. Applied Mathematics & Statistics — *Dec 2019*

- **GPA:** 3.93/4.0

Research Experience

Max Planck Institute for Intelligent Systems — *Tübingen, Germany*
Visiting Fulbright Scholar — *Sept 2021 - Current*

- Host: Bernhard Schölkopf
- Causal discovery and model selection in heterogeneous environments under sparse mechanism shifts.

Johns Hopkins University — *Baltimore, MD*
Research Assistant — *Jan. 2019 - July 2021*

- Advisor: Joshua Vogelstein
- Open source development of nonparametric statistical inference methods for high dimensional and structured data, with hypothesis testing capabilities, theoretical guarantees, and applications to neuroimaging data.

Ecole Polytechnique Federale de Lausanne — *Geneva, Switzerland*
Research Intern — *May 2018 - Aug 2018*

- Advisor: Elvira Pirondini
- Created MATLAB fMRI segmentation pipeline and identified spatial-temporal correlations in neural activity.

Boyce Thompson Institute — *Ithaca NY*
Research Intern — *June 2015 - Aug 2015*

- Advisor: Zhangjun Fei
- Developed Perl and Bash scripts to process raw genomic data and identified patterns of recombination.

Professional Experience

Rheonix Inc. — *Ithaca, NY*
Software Development Intern — *May 2017 - Aug 2017*
Optimized image classifier and automated hardware failure identification system.

Earth & Planetary Sciences, Cornell University — *Ithaca, NY*
Temporary Service Technician — *Aug 2016 - Sep 2016*
Automated cross-referencing of video and metadata files using character recognition to extract timestamps.

URSA Space Systems — *Ithaca, NY*
Software Development Intern — *Apr 2016 - Aug 2016*
Improved ship detection algorithm in satellite images and created matching algorithm to link AIS data to ships.

Awards

2021 **Fulbright Finalist**, Research Fellowship — *Germany*
2019 **Departmental Honors**, Applied Mathematics & Statistics — *Johns Hopkins*
2016-19 **Deans List**, all semesters — *Johns Hopkins*

Publications

Peer-Reviewed Publications

[1] **Ronan Perry**, Gavin Mischler, Richard Guo, Theodore Lee, Alexander Chang, Arman Koul, Cameron Franz, Hugo Richard, Iain Carmichael, Pierre Ablin, et al. "mvlearn: Multiview Machine Learning in Python". In: *Journal of Machine Learning Research* 22.109 (2021), pp. 1–7.

Pre-prints

[1] **Ronan Perry**, Ronak Mehta, Richard Guo, Eva Yezerets, Jesús Arroyo, Mike Powell, Hayden Helm, Cencheng Shen, and Joshua T Vogelstein. "Random Forests for Adaptive Nearest Neighbor Estimation of Information-Theoretic Quantities". In: *arXiv preprint arXiv:1907.00325* (2021).

[2] **Ronan Perry**, Adam Li, Chester Huynh, Tyler M. Tomita, Ronak Mehta, Jesus Arroyo, Jesse Patsolic, Benjamin Falk, and Joshua T. Vogelstein. "Manifold Oblique Random Forests: Towards Closing the Gap on Convolutional Deep Networks". In: *arXiv preprint arXiv:1909.11799* (2021).

[3] Sambit Panda, Cencheng Shen, **Ronan Perry**, Jelle Zorn, Antoine Lutz, Carey E Priebe, and Joshua T Vogelstein. "Nonpar MANOVA via Independence Testing". In: *arXiv preprint arXiv:1910.08883* (2021).

Conference Abstracts & Presentations

[1] **Ronan Perry**, Loic Daumail, Jelle Zorn, Sebastien Czajko, Daniel S. Margulies, Joshua T. Vogelstein, and Antoine Lutz. "Permutation-corrected independence testing for high-dimensional fMRI data". In: *Neuromatch 3.0*. Oct. 2020.

[2] **Ronan Perry**, Loic Daumail, Jelle Zorn, Daniel S. Margulies, Joshua T. Vogelstein, and LutzAntoine. "Identifying Differences Between Expert and Novice Meditator Brain Scans via Multiview Embedding". In: *Organization for Human Brain Mapping*. June 2020.

Teaching

2019	**Teaching Assistant**, Applied Math 430: Introduction to Statistics	*Johns Hopkins*
2018	**Teaching Assistant**, Applied Math 420: Introduction to Probability	*Johns Hopkins*
2017	**Peer Group Tutor**, Multivariate Calculus	*Johns Hopkins*

Open Source Software

mvlearn	[Owner] A *Python* package for multiview learning methods. mvlearn.github.io
hyppo	[Contributor] A *Python* package for multivariate hypothesis testing. Github
graspologic	[Contributor] A *Python* package for modeling and inference on network-valued data. Github

Languages & Tools

Experienced	Python, Git, LaTeX
Intermediate	R, German
Basic	Bash, Inkscape, Java, MATLAB, Perl

Extracurricular & Service

- NeurIPS Workshop Programme committee: *Out-of-distribution Learning* (2021)
- Bluebonnet Data Fellow (2021)
- JHU CSSE Volunteer Researcher (2020)
- Impact Bootcamp Fellow (2020)
- SPLASH Instructor, JHU (2018-19)
- JHU Popel Lab Volunteer Researcher (2017)