Geoff Pleiss, Curriculum Vitae

Postdoctoral Research Scientist
Zuckerman Institute, Columbia University
Advisor: John Cunningham
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Education

Ph.D.	Computer Science (2020) Cornell University (Ithaca, NY) Committee: Kilian Q. Weinberger, Andrew Gordon Wilson, Karthik Sridharan
M.Sc.	Computer Science (2018) Cornell University (Ithaca, NY)
B.Sc.	Engineering: Computing with Applied Mathematics (2013) Olin College of Engineering (Needham, MA) GPA 3.86/4.0

Employment

2020–	Postdoctoral Research Scientist Prof. John Cunningham
2019-2020	Research Intern ASAPP Inc. (Ithaca, NY)
2018	Research Intern Microsoft Inc. (Redmond, WA)
2013–2015	Software Engineer Pivotal Inc. (New York, NY)

Honors and Awards

2017	National Science Foundation Graduate Research Fellowship Program Honorable mention
2016	National Science Foundation Graduate Research Fellowship Program Honorable mention
2012	Barry M. Goldwater Scholarship Honorable mention
2009–2013	Olin Merit Scholarship Full-tuition recipient

Teaching Positions

Fall 2017	CS6780 — *Advanced Topics in Machine Learning* Cornell University (w/ Prof. Kilian Weinberger)
Fall 2016	CS4786 — *Machine Learning for Data Science* Cornell University (w/ Prof. Karthik Sridharan)

Fall 2015	CS4700 — *Foundations of Artificial Intelligence* Cornell University (w/ Prof. Bart Selman)
Spring 2013	SCI3130 — *Advanced Classical Mechanics* Olin College (w/ Prof. Yevgeniya V. Zastavker)
Spring 2011	SCI1121 — *Computational Electricity and Magnetism* Olin College (w/ Prof. Mark Somerville)

Invited Talks

Dec. 2020	Machine Learning for Nuclear Data Workshop
Nov. 2019	Cornell University
May 2019	Uber AI Symposium on Bayesian Optimization
Jul. 2018	International Conference on Machine Learning
Aug. 2017	International Conference on Machine Learning

Professional Service

Reviewing	JMLR (2019–2021)
Reviewing	AAAI (2017)
Reviewing	AISTATS (2019–2021)
Reviewing	ICLR (2021)
Reviewing	ICML (2019–2021)
Reviewing	NeurIPS (2018–2020)
Reviewing	UAI (2018)

Selected Open Source

2017-	GPyTorch `https://gpytorch.ai`
2017	Memory Efficient DenseNets `https://github.com/gpleiss/efficient_densenet_pytorch`

Outreach

Fall 2020	LatinX in AI NeurIPS mentorship program
Spring 2018	Cornell "Expand Your Horizons" (Taught STEM workshop for middle school girls)
Spring 2017	Cornell "GRASSHOPR" (Taught after-school CS class at local middle school)
Spring 2016	Cornell "Expand Your Horizons"
Spring 2016	"Code4Kids" (Taught after-school CS class at local elementary school)

Publications

arXiv public author identifier: http://arxiv.org/a/pleiss_g_1.

Under Submission

[U1] **Geoff Pleiss** and John P. Cunningham. The limitations of large width in neural networks: A deep Gaussian process perspective. *arXiv preprint arXiv:2106.06529*, 2021.

[U2] Anthony L. Caterini, Gabriel Loaiza-Ganem, **Geoff Pleiss**, and John P. Cunningham. Rectangular flows for manifold learning. *arXiv preprint arXiv:2106.01413*, 2021.

[U3] Martin Jankowiak and **Geoff Pleiss**. Scalable cross validation losses for Gaussian process models. *arXiv preprint arXiv:2105.11535*, 2021.

Conference Proceedings

[C1] Andres Potapczynski, Luhuan Wu, Dan Biderman, **Geoff Pleiss**, and John P. Cunningham. Bias-free scalable Gaussian processes via randomized truncations. In *International Conference on Machine Learning*, 2021.

[C2] Luhuan Wu, Andrew Miller, Lauren Anderson, **Geoff Pleiss**, David Blei, and John P. Cunningham. Hierarchical inducing point Gaussian process for inter-domain observations. In *Artificial Intelligence and Statistics*, 2021.

[C3] **Geoff Pleiss**, Martin Jankowiak, David Eriksson, Anil Damle, and Jacob R. Gardner. Fast matrix square roots with applications to Gaussian processes and Bayesian optimization. In *Neural Information Processing Systems*, 2020.

[C4] **Geoff Pleiss**, Tianyi Zhang, Ethan Elenberg, and Kilian Q. Weinberger. Identifying mislabeled data using the area under the margin ranking. In *Neural Information Processing Systems*, 2020.

[C5] Martin Jankowiak, **Geoff Pleiss**, and Jacob R. Gardner. Deep sigma point processes. In *Uncertainty in Artificial Intelligence*, 2020.

[C6] Martin Jankowiak, **Geoff Pleiss**, and Jacob R. Gardner. Parametric Gaussian process regressors. In *International Conference on Machine Learning*, 2020.

[C7] Yurong You, Yan Wang, Wei-Lun Chao, Divyansh Garg, **Geoff Pleiss**, Bharath Hariharan, Mark Campbell, and Kilian Q. Weinberger. Pseudo-lidar++: Accurate depth for 3d object detection in autonomous driving. In *International Conference on Learned Representations*, 2020.

[C8] Ke Wang*, **Geoff Pleiss***, Jacob R. Gardner, Stephen Tyree, Kilian Q. Weinberger, and Andrew Gordon Wilson. Exact Gaussian processes on a million data points. In *Neural Information Processing Systems*, 2019.

[C9] Jacob R. Gardner*, **Geoff Pleiss***, David Bindel, Kilian Q. Weinberger, and Andrew Gordon Wilson. GPyTorch: Blackbox matrix-matrix Gaussian process inference with GPU acceleration. In *Neural Information Processing Systems*, 2018.

[C10] **Geoff Pleiss**, Jacob R. Gardner, Andrew Gordon Wilson, and Kilian Q. Weinberger. Constant time predictive distributions for Gaussian processes. In *International Conference on Machine Learning*, 2018.

[C11] Jacob R. Gardner, **Geoff Pleiss**, Ruihan Wu, Andrew Gordon Wilson, and Kilian Q. Weinberger. Product kernel interpolation for scalable Gaussian processes. In *Artificial Intelligence and Statistics*, 2018.

[C12] **Geoff Pleiss***, Manish Raghavan*, Felix Wu, Jon Kleinberg, and Kilian Q. Weinberger. On fairness and calibration. In *Neural Information Processing Systems*, pages 5682–5691, 2017.

[C13] Chuan Guo*, **Geoff Pleiss***, Yu Sun*, and Kilian Q. Weinberg. On calibration of modern neural networks. In *International Conference on Machine Learning*, pages 1321–1330, 2017.

[C14] Paul Upchurch, Jacob Gardner, **Geoff Pleiss**, Kavita Bala, Robert Pless, Noah Snavely, and Kilian Q. Weinberger. Deep feature interpolation for image content changes. In *Computer Vision and Pattern Recognition*, 2017.

[C15] Gao Huang, Yixuan Li, **Geoff Pleiss**, Zhuang Liu, John E. Hopcroft, and Kilian Q. Weinberger. Snapshot ensembles: Train 1, get M for free. In *International Conference on Learned Representations*, 2017.

Journal Articles

[J1] Gao Huang, Zhuang Liu, **Geoff Pleiss**, Laurens Van Der Maaten, and Kilian Weinberger. Convolutional networks with dense connectivity. *Pattern Analysis and Machine Intelligence*, 2019.

[J2] James Knighton, **Geoff Pleiss**, Elizabeth Carter, Steven Lyon, M Todd Walter, and Scott Steinschneider. Potential predictability of regional precipitation and discharge extremes using synoptic-scale climate information via machine learning: An evaluation for the eastern continental united states. *Journal of Hydrometeorology*, 20(5):883–900, 2019.

Workshop Proceedings

[W1] Elliott Gordon-Rodriguez, Gabriel Loaiza-Ganem, **Geoff Pleiss**, and John P Cunningham. Uses and abuses of the cross-entropy loss: case studies in modern deep learning. 2020.

Technical Reports

[T1] **Geoff Pleiss**, Danlu Chen, Gao Huang, Tongcheng Li, Laurens van der Maaten, and Kilian Q Weinberger. Memory-efficient implementation of densenets. *arXiv preprint arXiv:1707.06990*, 2017.

* Authors contributed equally.