Matthew Wallingford

Bill & Melinda Gates Center for Computer Science & Engineering
Paul G. Allen School of Computer Science & Engineering
University of Washington, Seattle, WA, USA 98195

mcw244@cs.washington.edu
https://mattwallingford.github.io/
Google Scholar

Education

University of Washington, Seattle *2019 - present*
PhD student in Computer Science and Engineering advised by Prof. Ali Farhadi

Cornell University *2013 - 2019*
Master of Science in Computer Science, advised by Prof. Bharath Hariharan
Bachelor of Arts in Mathematics, minor in Computer Science and Physics

Publications

Conference Publications

* - equal contribution

1. **Neural Priming for Sample-Efficient Adaptation.**
Matthew Wallingford*, Vivek Ramanujan*, Alex Fang, Aditya Kusupati, Roozbeh Mottaghi, Aniruddha Kembhavi, Ludwig Schmidt, Ali Farhadi.
*Neural Information Processing Systems (**NeurIPS**), 2023.*

1. **Objaverse-XL: A Universe of 10M+ 3D Objects.**
Matt Deitke, Ruoshi Liu, **Matthew Wallingford**, Huong Ngo, Oscar Michel, Aditya Kusupati, Alan Fan, Christian Laforte, Vikram Voleti, Samir Yitzhak Gadre, Eli VanderBilt, Aniruddha Kembhavi, Carl Vondrick, Georgia Gkioxari, Kiana Ehsani, Ludwig Schmidt, Ali Farhadi.
*Neural Information Processing Systems (**NeurIPS**), Datasets and Benchmarks, 2023.*

6. **Neural Radiance Field Codebooks.**
Matthew Wallingford, Aditya Kusupati, Alex Fang, Vivek Ramanujan, Aniruddha Kembhavi, Roozbeh Mottaghi, Ali Farhadi.
*International Conference on Learning Representations (**ICLR**), 2023*

5. **FLUID: A Unified Evaluation Framework for Flexible Sequential Data**.
Matthew Wallingford, Aditya Kusupati, Keivan Alizadeh-Vahid, Aaron Walsman, Aniruddha Kembhavi, Ali Farhadi.
*Transactions on Machine Learning Research (**TMLR**), 2023.*

4. **Matryoshka Representation Learning**.
Aditya Kusupati, Gantavya Bhatt, Aniket Rege, **Matthew Wallingford**, Aditya Sinha, Vivek Ramanujan, William Howard-Snyder, Kaifeng Chen, Sham Kakade, Prateek Jain, Ali Farhadi.
*Neural Information Processing Systems (**NeurIPS**), 2022.*

3. **Task Adaptive Parameter Sharing for Multi-Task Learning**.
Matthew Wallingford, Hao Li, Alessandro Achille, Avinash Ravichandran, Charless Fowlkes, Rahul Bhotika, Stefano Soatto.
*Conference on Computer Vision and Pattern (**CVPR**), 2022.*

2. **LLC: Accurate, Multi-purpose Learnt Low-dimensional Binary Codes**.
Aditya Kusupati, **Matthew Wallingford**, Vivek Ramanujan, Raghav Somani, Jae Sung Park, Krishna Pillutla, Prateek Jain, Sham Kakade, Ali Farhadi.
*Neural Information Processing Systems (**NeurIPS**), 2021.*

1. **RoboTHOR: An Open Simulation-to-Real Embodied AI Platform**.
Matt Deitke, Winson Han, Alvaro Herrasti, Aniruddha Kembhavi, Eric Kolve, Roozbeh Mottaghi, Jordi Salvador, Dustin Schwenk, Eli VanderBilt, **Matthew Wallingford**, Luca Weihs, Mark Yatskar, Ali Farhadi.
*Conference on Computer Vision and Pattern(**CVPR**), 2020.*

Work Experience

AWS AI Lab *June - August, 2021*
Research Intern
Advisors: Avinash Ravichandran & Charless Fowlkes

Developed method (Task Adaptive Parameter Sharing - CVPR '22) for efficient deployment of multi-task and fine-tuned models.

Microsoft *May - August, 2018*
Data Science Intern
Developed and deployed an anomaly detection system for user login data to identify system failures in Azure Identity.

Talks

- **Learning 3D Representations from Video**
  - UIUC Vision Group *May 2023*
  - UW Graphics Group *July 2023*
  - Workshop on Neural Fields (ICLR 2023) *June 2023*
- **Towards Real World Machine Learning**
  - Google Brain - Meta Learning Group *March 2020*
  - University of Washington CSE Colloquium *March 2020*

Service

- *Reviewer* - NeurIPS (2022-Present, Top reviewer '23), ICLR (2022-Present), CVPR (2019-Present)
- *Reader (ML/AI): PhD Admissions - Paul G. Allen School of CSE, University of Washington* *2020-Present*
- *Reader - Allen School PhD Pre-Application Mentorship Service (PAMS)* *2020-Present*