Matthew Hyatt

mhyatt000@gmail.com · mhyatt000.github.io

RESEARCH INTERESTS

Bimanual manipulation, self-supervised learning, offline RL, human behavior, humanoid robotics

EDUCATION

Loyola University Chicago | *PhD Computer Science* 2024-2029

Loyola University Chicago | *BS Computer Science* 2020-2024
Major GPA: 3.85 / 4.0 | Cumulative GPA: 3.68 / 4.0

AWARDS & HONORS

· Loyola Distinguished Research Award	-	2024
· Loyola Grace Hopper Service & Leadership Award	-	2024
· NSF GRFP - *offer declined in favor of NDSEG*	$111,000	2024-2029
· DOD NDSEG	$153,600	2024-2027
· Loyola USRE Mentor - *2 of 30 selected projects*	$14,000	2023
· NFS Research Experience for Undergraduates	$8,000	2022
· Loyola Provost Fellowship	$3,500	2022
· Loyola FYRE Scholarship	$1,000	2020
· Loyola Interdisciplinary Honors - *top 5% of applicants*	-	2020-2024
· Loyola Director's Scholarship	$8,000	2020-2024
· Loyola Presidential Scholarship	$100,000	2020-2024

EXPERIENCE

Visiting Researcher | University of Texas at Austin - RobIN Lab May 2024 - Present
Supervised by Roberto Martín-Martín
- Mobile robot learning.

Research Assistant | Loyola University Chicago - Software Systems Lab 2021 - 2024
Supervised by Daniel Moreira and George Thiruvathukal
- Goal-conditioned robot learning (behavior cloning) in simulation.
- Computational neuroscience.
- Secured funding to support the work of 4 undergraduate students.
- Mentor 7 students to facilitate collaborative teamwork and discovery.

Research Assistant | Argonne National Laboratory May - August 2023
Supervised by George Thiruvathulal and Venkatram Vishwanath
- Used supercomputers to answer long-horizon scientific questions with deep learning and simulation.
- Trained computer vision models on 128 GPUs to detect scientific fraud from GAN-synthesized western blot images.
- Research in event detection of particle simulations.
- Training computer vision models to detect and localize dark matter halos in cosmology simulations.

Data Science Intern - Global Production Planning | Beam Suntory Inc. January - May 2023
- Supply chain coordination and production schedule optimization.

Research Assistant | Purdue University - Duality Lab May - August 2022
Supervised by George Thiruvathukal and James Davis
- Security and distribution of deep learning software and pretrained models.

Research Assistant | Loyola University Chicago - FYRE Scholarship January - June 2021

SKILLS

Robotics	RoboMimic, ORBIT, IsaacSim, Mujoco
Deep Learning	PyTorch, Torchvision, Cuda, PBS. TensorFlow, Keras
Big Data	Spark, Azure, GCP, Hadoop, Docker
Coursework	Deep Learning, Natural Language Processing, Computer Vision, Big Data Analytics, Calculus III
Languages	Python, Bash, Mojo, Java, C++, JavaScript, SQL
Fabrication	CAD/CAM (Fusion360), CNC Milling, 3D Printing

CONFERENCE PAPERS

***Manuscript under Preparation:** Luke Baumel, **Matt Hyatt**, Mikayla Cutler, Joseph Tocco, George K. Thiruvathukal, Nicholas Baker. 2024. Towards Human-inspired Visual Perception Networks. 2024

Wenxin Jiang Nicholas Synovic **Matt Hyatt** Taylor R. Schorlemmer Rohan Sethi Yung-Hsiang Lu George K. Thiruvathukal James C. Davis. 2023. An Empirical Study of Pre-Trained Model Reuse in the Hugging Face Deep Learning Model Registry. In Proceedings of the 45th International Conference on Software Engineering (**ICSE '23**). IEEE Press, 2463–2475. https://doi.org/10.1109/ICSE48619.2023.00206 2023

Wenxin Jiang, Nicholas Synovic, Rohan Sethi, Aryan Indarapu, **Matt Hyatt**, Taylor R. Schorlemmer, George K. Thiruvathukal, and James C. Davis. 2022. An Empirical Study of Artifacts and Security Risks in the Pretrained Model Supply Chain. In Proceedings of the 2022 ACM Workshop on Software Supply Chain Offensive Research and Ecosystem Defenses (**SCORED '22**), https://doi.org/10.1145/3560835.3564547 2023

Nicholas M. Synovic, **Matt Hyatt**, Rohan Sethi, Sohini Thota, Shilpika, Allan J. Miller, Wenxin Jiang, Emmanuel S. Amobi, Austin Pinderski, Konstantin Läufer, Nicholas J. Hayward, Neil Klingensmith, James C. Davis, and George K. Thiruvathukal. 2023. Snapshot Metrics Are Not Enough: Analyzing Software Repositories with Longitudinal Metrics. In Proceedings of the 37th IEEE/ACM International Conference on Automated Software Engineering (**ASE '22**). Association for Computing Machinery, New York, NY, USA, Article 167, 1–4. https://doi.org/10.1145/3551349.3559517 2022

TECHNICAL REPORTS

Matt Hyatt, George K. Thiruvathukal, and Daniel Moreira. 2023. Robust Source Attribution of Synthetically Generated Western Blot Images. *Loyola eCommons, Computer Science: Faculty Publications and Other Works*. 2023

INVITED TALKS

- Loyola Neuroscience Society Undergraduate Research Panel — Fall 2023

TEACHING

- **COMP 180**: *Computing and Data Analysis for the Sciences* — Spring 2023