Matthew Hyatt

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EDUCATION

Loyola University Chicago — Expected Graduation 05/24
BS Computer Science — Dean's List 2021-2023
Major GPA: 3.80 / 4.0 — Presidential Scholarship recipient
Cumulative GPA: 3.61 / 4.0 — Director's Scholarship recipient

AWARDS

· Goldwater Scholarship Applicant		Decision by May 2023
· NFS Research Experience for Undergraduates (REU)	$8000	2022
· Loyola Provost Fellowship	$3500	2022
· Loyola FYRE Scholarship	$1000	2020

EXPERIENCE

Beam Suntory Inc. Chicago, IL — 2023 - Present
Data Science Intern Global Production Planning - Internship

· Designing autonomous DL agent to plan and coordinate production schedule on multiple bottling lines

Purdue University - Duality Lab — Summer 2022
Research Assistant - Internship

· Designed interview and survey of DL practitioners to reveal difficulties in pre-trained neural network (PTNN) selection.

· Reviewed relevant works to motivate research direction. Evaluated security flaws in PTNN supply chain. Proposed solutions for increasing secure software distribution and published in cybersecurity conference.

· Built automated pipeline to validate the authenticity of 100+ PTNN performance claims (accuracy, mAP, F1). Implemented via automatic web scraping of model zoos for model parameters and running inferences over corresponding dataset. *Python(Requests, Beautiful Soup, OpenCV, TensorFlow, Pytorch, HuggingFace) JSON.*

· Funded by a National Science Foundation grant to Dr. James Davis

Loyola University Chicago - Software Systems Laboratory — 2021 - Present
Research Assistant - Part Time

· Currently developing Computer Vision models to detect and classify medical images synthesized by GAN neural networks. Built distributed training framework for multiple GPUs. Configured experiments in YAML for rapid prototyping. *Python (Torch, torchvision, torchrun)*

· Analyzed TensorFlow Model Garden machine learning libraries for coding practices. Classified developer issues by reading error logs to determine the source of errors. Collaborated with a group of 6 researchers at Purdue University.

· Mined data from FOSS GitHub repositories. Developed automated command line interface tools to measure productivity, defect density and bus-factor of software projects with multiprocessing. Created graphs to visualize results. *Python (Numpy, Pandas, Matplotlib, Scikit-learn) JSON*

· Funded by a Google gift to Dr. George K.Thiruvathukal.

Loyola University Chicago - FYRE Program — 2020 - 2021
Research Assistant - Internship

SKILLS

Languages	Python, Java, Bash, JavaScript, SQL, HTML, CSS
ML / Big Data	PyTorch, Torchvision, TensorFlow, HDFS, Spark
Program Design	Object Oriented Programming, Test Driven Development, Agile Development
Coursework	Machine Learning, Natural Language Processing, Deep Learning, Computer Vision, Front End Web Development, Big Data Analytics,

PUBLICATIONS

CONFERENCE PAPERS

[1] 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**) to be held 14-20 May 2023 in Melbourne, Australia.

[2] 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

[3] 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