# JACKSON HARMON

## Machine Learning Scientist

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#### PROFILE

I'm a master's student studying at the University of Tübingen, interested in developing the next generation of machine learning models. My research focuses on understanding continual learning and how post-training processes affect pretrained knowledge in large language models.

#### **EDUCATION**

University of Tübingen Tübingen, Germany 2023 - Present Master of Science in Machine Learning Georgia Institute of Technology Atlanta, GA Bachelor of Science in Computer Science, Highest Honors 2017 - 2021 • Specializations: Machine Learning and Theory

Ludwig Maximilian University of Munich

Study Abroad - Informatik Spartanburg High School

Spartanburg, SC High School Diploma, Top 5 of Class 2014 - 2017

#### Research & Publications

## Mapping Post-Training Forgetting in Language Models at Scale

2025

Munich, Germany

2019 - 2020

- Research quantifying how post-training alters pretrained knowledge in LMs through sample-wise forgetting metrics
- Demonstrated that domain-continual pretraining induces moderate forgetting
- Showed RL/SFT yields moderate-to-large backward transfer on math and logic tasks
- Found that model merging doesn't reliably mitigate forgetting
- Project website: post-forget.github.io

## EXPERIENCE

2021 - 2023Software Engineer Atlanta, GA NCR Corporation

- Code-owner of Java and Go microservices deployed across companies worldwide
- Led inter-team and customer-facing weekly meetings to coordinate feature development
- Implemented scalable production backend services

## Machine Learning Intern

2018

Hawque

Atlanta, GA (Remote)

- Developed a facial recognition system with a remote international team
- Implemented user-item collaborative filtering to match users and providers based on preferences and history
- Presented and demonstrated results to stakeholders

## **Engineering Intern**

Perceptive Solutions

2016 Greenville, SC

• Developed a framework for modeling interactions between various magnets

• Wrote a data extrapolation and visualization program compatible with the modeling framework

## SELECTED PROJECTS

## ML Models & Algorithms Implementation | Python, NumPy, PyTorch 2024 • On-going collection of machine learning models and algorithms implemented from scratch for learning Includes neural networks, optimization algorithms, and probabilistic models Physics-Informed Machine Learning | Python, PyTorch 2024 • Course project exploring physics-informed neural networks (PINNs) Applied PINNs to solving differential equations with physical constraints Scaling Laws | Python, PyTorch, Weights and Biases 2024 • Research project predicting scaling laws for open weight language models, investigating Kaplan and Chinchilla scaling law behaviors and their implications for model training efficiency 2018 Photo/Video Blemish Remover | Python, TensorFlow, OpenCV • Developed facial recognition and blemish detection tool using TensorFlow and OpenCV • Deployed as photo filter application 2014 Reconfigurable Computer | FPGA, Hardware Design • FPGA-based reconfigurable computer design, featured on Upverter Blog • Open-source hardware project with multiple forks HarmonsOS - Hobby Operating System | x86 Assembly, C 2013 • 32-bit operating system with bootloader, command line, and hard drive support

## TECHNICAL SKILLS

Languages: Python, C++, Java, Go, CUDA, Bash, x86 Assembly, SQL, JavaScript

 $\mathbf{ML}/\mathbf{AI}$  Frameworks: PyTorch, LightEval, Hugging Face, Mergekit, TensorFlow, NumPy, scikit-learn

Tools & Platforms: Git, SLURM, Emacs, Weights & Biases, ROS2, Docker, Kubernetes, Linux, AWS, LaTeX

Other Skills: German (B2 level)