Online Summer Internship Opportunity with Yiping Lu at Northwestern University

Dr. Yiping Lu (https://2prime.github.io/), a tenure-track Assistant Professor at Northwestern University, is finding online summer intern for ambitious students eager to delve into research that intersects machine learning, computational mathematics, and their application in addressing complex challenges. During the internship, you can get mentorship from Dr. Yiping Lu and interaction with a vibrant research team and opportunity to contribute to impactful research and author scientific papers. Here is the record of the previous interns: https://2prime.github.io/students/

Duration: at least 3 months
Requirement:
- Solid grounding in mathematics and statistics, with programming skills in Python and experience with ML frameworks.
- Previous research experience is preferred but not required.Most important is a strong enthusiasm and self-study ability in the cutting-edge research of machine learning.

Potential Projects:
- Statistical analysis for scientific machine learning (ICLR 2022, ICLR 2023(*spotlight*)), (*Recent*) Debiasing Machine Learning for Scientific applications (Neurips 2023), (*Recent*) Implicit bias of Physics-informed Neural Network and Failure modes.
- Continuous-time neural network (ICML2018,Neurips 2019,ICML 2020, ICLR 2024 (*spotlight*)): Neural ODE/Diffusion Models/Machine Learning for control
- Optimization in infinite dimensional (distribution space) (Neurips 2022): Sampling/Variational Monte Carlo/Optimization and learning in Reproducing Kernel Hilbert/Banach Space
- Robust Machine Learning: Distributionally Robust Optimization, Adversarial Robustness, Distribution Shift
- (*Recent*) In-context learning and dynamic system

Yiping Lu is an incoming tenure-track Assistant Professor at Northwestern University. Before He is a courant instructor at Courant Institute of Mathematical Sciences, New York University. He completed his PhD in computational math at Stanford in 2023 and received his B.S. in math at Peking University in 2019. His work spans statistical learning, information theory, and computational math to develop a hybrid scientific research discipline that combines domain knowledge (differential equation, stochastic process, control,…), machine learning and (randomized) experiments.

Yiping was a recipient of the Conference on Parsimony and Learning (CPAL) Rising Star Award in 2024, the Rising Star in Data Science from the University of Chicago in 2022, the Stanford Interdisciplinary Graduate Fellowship and the SenseTime Scholarship in 2021 for undergraduates in AI in 2019. He also served as an Area Chair for AISTATS. Yiping will give a tutorial on recent advances in physics-informed machine learning at AAAI 2024.

Application Process: Submit your CV, a statement of research interests, and two recommendation letters via email to yiping.lu@northwestern.edu, with the subject "Summer 2024 Research Intern Application".