I am looking for highly motivated and self-driven students, who are interested in

(1) Deep Learning Theory, especially optimization, representation, and generalization of deep neural networks.

(2) Natural language Processing, especially pre-trained language models, weak supervision, and efficient training of neural language models.

(3) Deep learning for Modern Circuit Design, especially AI-assisted fast reconfiguration and rapid end-to-end design synthesis of RF/mm-Wave circuits and systems.

(4) Deep Learning-based Force Field for Molecular Dynamics Simulation.

If you would like to contact me, my email is tourzhao@gatech.edu. Note that your email does not need to be long and only needs to include some essential information, including your interests and CV. I receive many emails every day and may not be able to reply all of them. However, if you can include "L'apprentissage automatique" (machine learning in French) in the subject of your email, then you will get more attention.

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*Prospective Ph.D. students should have an excellent background in computer science, electrical engineering, mathematics, physics, statistics, or other related fields. Coding skills, as well as related experiences are desirable. Most important is a strong enthusiasm in the cutting-edge research of machine learning.

My recent research projects cover a wide range of topics, including deep learning theory, nonconvex stochastic optimization, computational optimal transport, reinforcement learning and natural language understanding. More details can be found at my webpage

http://www2.isye.gatech.edu/~tzhao80/.

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*Prospective undergraduate students should have a solid background in computer science, electrical engineering, mathematics, physics, statistics, or other related fields.

(1) Several undergraduate courses including Calculus (e.g., MATH 1501/1502, 2551/2552, 2561/2562), Probability (e.g., MATH 3235/4221/4222), Linear Algebra (e.g., MATH 1554/1564), and Machine Learning (e.g, CS 4641, CX4240) are prerequisite.

(2) Mathematical Statistics (e.g., MATH 4261/4262) and Numerical Analysis (MATH 4640/4641), Algorithms (e.g., CS 4540), Optimization (e.g., MATH 4580, ISyE 4133) are plus.

Most important is a strong enthusiasm and self-study ability in the cutting-edge research of machine learning and related applications, such as natural language processing and computer vision.