

Yudong Li

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Education

Georgia Institute of Technology

Expected Aug. 2025

Master of Science in Computer Science (GPA: 4.00 / 4.00)

Atlanta, GA

- **Relevant Coursework:** Bayesian Statistics, Machine Learning, Deep Learning, Reinforcement Learning

The University of Alabama

May 2019

PhD in Materials Metallurgical Engineering (GPA: 3.92 / 4.00)

Tuscaloosa, AL

- **Relevant dissertation work:** Developed and implemented mathematical models to optimize the physics and chemical conditions of a plasma reactor for material processing.

Experience

National Renewable Energy Laboratory

Oct 2019 – Present

Research Engineer/Team Lead

Golden, CO

- Technical stacks: Python, C++, Pytorch, TensorFlow, Sci-kit Learn, Flask, Vue.js, MongoDB, Qt, CI/CD, MLOps
- Leading a cross-functional team in developing and deploying reinforcement learning algorithms to optimize the operation of different processing reactors.
- Leading a small team of software engineering and technicians to develop deep neural network models for the application of material fast characterization. (Pytorch, TensorFlow)
- Leading the development and implementation of physics based softwares to perform systematic parameter estimation based on various optimization techniques for real-world performance prediction.

The University of Alabama High Performance Computing (UAHPC) group

Aug 2018 – Dec 2018

Student Assistant (system admin)

Tuscaloosa, AL

- Worked as a system admin to assist the daily management, troubleshooting, user training for our high performance computer clusters.
- Assisted major upgrade of the system OS of the UAHPC with testing and fixing breaking changes, software migration issues.
- Developed high performance simulation code using C++ to enable various simulation needs.

Projects

Webapp hosted on company local network: scalable multi-user cyclic image annotation for dataset generation

Pytorch, TensorFlow, Flask, Vue.js, MongoDB, CI/CD, Kubernetes, github workflow

Parameter estimation for chemical reaction rate constants using Linear/non-linear optimization technics

Scipy, Bayesian Optimization

Distributed web file server implementation with C and C++

C, C++, Network programming, IPC, gRPC, etc.

Simulation code: modeling packed bed system in chemical processing

C++, Python, SQL [<https://doi.org/10.1016/j.cej.2021.128918>]

High performance simulation software: modeling the rotation disc mill

C++, [<https://doi.org/10.1021/acssuschemeng.1c01773>]

Opensource Cluster analysis and visualization code: 3D atomic tomography analysis of solid state materials

Python, Qt - <https://github.com/YudongLi90/APT-ClusterAnalysis.git>