

SHUOHAN TAO

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EDUCATION

University of Cambridge

Cambridge, UK

Information and Computer Engineering (BA, MEng), First Class Honours

Oct. 2020–Jun. 2024

- **Relevant Modules:** Deep Learning and Structured Data, Probabilistic Machine Learning, Computer Vision, Systems and Control, Statistical Signal Processing, Information Theory and Coding, Medical Imaging and 3-D Computer Graphics, Semiconductor Engineering, Computational Statistics and Machine Learning.

Georgia Institute of Technology

Atlanta, USA

Computational Science and Engineering, CoC (MS)

Jan. 2026–Present

- **Grade:** 4.0/4.0
- **Relevant Modules:** ISYE 6740 Computational Data Analysis, CSE 6242 Data & Visual Analytics, CSE 8803 Digital Twins Physical System, CSE 6730 Modeling and Simulation.

PUBLICATIONS

PhysCoRe: Physics-Corrected Residual World Models for Material-Aware Deformable Dynamics

Haocheng Yin*, Shuohan Tao*, Yongsheng Chen, Lu Gan

Under review, 2026

RfM: Zero-Shot Rigging from Video Diffusion Models

Shuohan Tao, Shunyuan Zheng, Boyao Zhou

Under review, 2026

Tessellation GS: Neural Mesh Gaussians for Robust Monocular Reconstruction of Dynamic Objects

Shuohan Tao, Boyao Zhou, Hanzhang Tu, Yuwang Wang, Yebin Liu

3DV 2026

PROJECTS

Function Space Normalizing Flow for Partial Differential Equation Solver

Jun. 2023–May 2024

Final project, supervised by Professor Mark Girolami, University of Cambridge

- Developed novel normalizing flow architectures with proposed neighboring patch cross attention mechanism to generate general data not confined to grids (similar to FNO).
- Using normalizing flow to generate solutions of PDE on both unstructured data like sampled PDE values and structured data like images. The likelihood of normalizing flow provides uncertainty quantification for generated PDE solutions.
- Proposed coarse-to-fine image generation by conditioning the generation of higher frequency residual on lower frequency components of the image, which enables the generation of arbitrary resolution images.

Controller Design for a Chemical Evaporator with Classical and State Space

May 2023–Jun. 2023

Methods

Course Project

- Implemented and tested a classical controller using proportional integral control and a state feedback controller.
- Developed and tested the state feedback design by pole placement in MATLAB.
- Compared the performance of the classical controller with that of the state feedback controllers designed with gain scheduling, pole placement, and linear quadratic regulator.

INTERNSHIPS

Tsinghua University, Department of Automation

Beijing, China

Research Assistant, supervised by Professor Yebin Liu

Aug. 2024–Aug. 2025

- Responsibilities: assisting with research involving monocular reconstruction, dynamic scene modeling, and differentiable rendering.

Aceso Analytics

London, UK

Data Science Intern

Apr. 2022–Sept. 2022

- Developed predictive maintenance models for industrial machine maintenance based on 20-hour sound data.
- Responsibilities: model implementation, hyperparameter tuning.