CURRICULUM VITAE – TIANZHI LI

BASIC INFORMATION

Tianzhi Li
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Tianzhi Li received his B.Sc. in Mathematics, under the supervision of Prof. Donghua Shi, from Beijing Institute of Technology (BIT) in 2021. He is now a PhD student of Peking University. Also, from Dec. 2024, he has been a visting student under the supervision of Prof. François Gay-Balmaz at Nanyang Technological University (NTU) in Singapore.

His research interest lies at the intersection of geometric mechanics, stochastic nonholonomic mechanics, and physics-informed learning.

EDUCATION

- **Nanyang Technological University**   Dec. 2024 - Present
  Visiting Ph.D. student (Supervisor : Prof. François Gay-Balmaz)

- **Peking University**   Sept. 2021 - Present
  Ph.D. student (Supervisor : Prof. Jinzhi Wang)

- **Beijing Institute of Technology**   Sept. 2017 - June 2021
  Bachelor of Science (Supervisor : Prof. Donghua Shi)

PUBLICATIONS

Papers

- **T. Li** & Wang, J., Variational Unscented Kalman Filter on Matrix Lie Groups, **Automatica**, 172 :111995, 2025. (Regular Paper)

- **T. Li**, R. Fu, & J. Wang, Reduced Dynamics and Geometric Optimal Control of Nonequilibrium Thermodynamics : Gaussian Case, **Automatica**, 164 :111626, 2024. (Regular Paper)

- **T. Li** & J. Wang, Multisymplectic Unscented Kalman Filter for Geometrically Exact Beams, Proceedings of **Geometric Science of Information** 2023 (GSI). Lecture Notes in Computer Science 14072, pp. 60-68, Springer Verlag.

- **T. Li** & J. Wang, A Physics-Informed Gaussian Process Regression Algorithm for the Dynamics of the Planar Pendulum, 2023 42nd **IEEE Chinese Control Conference** (CCC), Tianjin, China, 2023, pp. 5163-5167.

- **T. Li** & J. Wang, A Structure-Preserving Learning Scheme on SO(3), 2024 43rd **IEEE Chinese Control Conference** (CCC), Kunming, China, 2024, pp. 5149-5152.

- **T. Li** & J. Wang, A Statistical Dynamical Algorithm for Gaussian Multi-agent Systems under Hamel's Formalism, 2022 34th **IEEE Chinese Control and Decision Conference** (CCDC), Hefei, China, 2022, pp. 1344-1349.

Patents

- UAV-Att : An Unmanned Aerial Vehicle Attitude Estimation Software, 2023 (Registration Number : 2023SR0335469).
- SatAtt-Pre : A Gaussian Process-Based Satellite Attitude Prediction Software, 2024 (Registration Number : 2024SR0348461).

PRESENTATIONS

◇ *Multisymplectic Unscented Kalman Filter for Geometrically Exact Beams.* at the International Conference on Geometric Science of Information (GSI), Saint-Malo, France, September, 2023.

◇ *Stochastic Nonholonomic Variational Principle* at Geometric Mechanics Seminar (Organized by Prof. Donghua Shi, Prof. Hiroaki Yoshimura, & Prof. Linyu Peng), July, 2024.

HONORS AND AWARDS

Academic Excellence Award, Peking University, 2024, 2023
PKU Dean's Scholarship - First Prize, Peking University, 2024
Yuehua Luo Sholarship, Peking University, 2024
Outstanding TA Award (1st rank among all candidates), Peking University, 2023