Curriculum Vitae – Tian-Zhi Li

Basic Information

Tian-Zhi Li
Email (Peking Univ.) : tlee@stu.pku.edu.cn
Email (Nanyang Technological Univ.) : n2409573c@e.ntu.edu.sg
Address : No. 5 Yiheyuan Rd., Haidian Dist., Beijing, China
Homepage : **tianzhi-li.github.io**

Tian-Zhi 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), Singapore.

His research interest lies at the intersection of (a) **geometric mechanics and control**, (b) **stochastic nonholonomic mechanics**, and (c) **physics-informed learning**.

Education

Peking University, Beijing — Sept. 2021 - July 2026
Ph.D. student (Supervisor : Prof. Jinzhi Wang)

Nanyang Technological University, Singapore — Dec. 2024 - Dec. 2025
Visiting Ph.D. student (Supervisor : Prof. François Gay-Balmaz)

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

Publications

- Tianzhi Li and Jinzhi Wang, Physics-Informed Gaussian Process Learning on Lie Groups, **Journal of Guidance, Control, and Dynamics** (**JGCD**), accepted, 2025.

- Tianzhi Li, François Gay-Balmaz, Donghua Shi, and Jinzhi Wang, Variational Principle for Stochastic Nonholonomic Systems Part I : Continuous-Time Formulation. International Conference on **Geometric Science of Information** (**GSI 2025**), accepted, 2025.

- Tianzhi Li, François Gay-Balmaz, Donghua Shi, and Jinzhi Wang, Variational Principle for Stochastic Nonholonomic Systems Part II : Stochastic Nonholonomic Integrator. International Conference on **Geometric Science of Information** (**GSI 2025**), accepted, 2025.

- Tianzhi Li, Jinzhi Wang, and Zhisheng Duan, Structure-Preserving Unscented Kalman Filter for Planar Mobile Robots, IEEE Control Systems Letters, accepted, 2025. [PDF Link]

- Tianzhi Li and Jinzhi Wang, Variational Unscented Kalman Filter on Matrix Lie Groups, **Automatica**, 172 :111995, 2025 (**Regular Paper**). [PDF Link]

- Tianzhi Li, Rui Fu, and Jinzhi Wang, Reduced Dynamics and Geometric Optimal Control of Nonequilibrium Thermodynamics : Gaussian Case, **Automatica**, 164 :111626, 2024 (**Regular Paper**). [PDF Link]

- Tianzhi Li and Jinzhi Wang, Multisymplectic Unscented Kalman Filter for Geometrically Exact Beams. In : Nielsen, F., Barbaresco, F. (eds) International Conference on **Geometric Science of Information** (**GSI 2023**). Lecture Notes in Computer Science 14072, pp. 60-68, Springer Verlag. [PDF Link]

- Tianzhi Li and Jinzhi Wang, A Physics-Informed Gaussian Process Regression Algorithm for the Dynamics of the Planar Pendulum, 42nd **IEEE Chinese Control Conference** (**CCC 2023**), Tianjin, China, 2023, pp. 5163-5167. [PDF Link]

- Tianzhi Li and Jinzhi Wang, A Structure-Preserving Learning Scheme on SO(3), 2024 43rd **IEEE Chinese Control Conference** (**CCC 2024**), Kunming, China, 2024, pp. 5149-5152. [PDF Link]

Honors and Awards

- PKU Presidential Doctoral Scholarship, Peking University, 2025-2026
- PKU-CoE Presidential Scholarship - First Prize, Peking University, 2024-2025
- Scholarship from Chinese Scholarship Council, 2024
- Academic Excellence Award, Peking University, 2024 & 2023
- Yuehua Luo Sholarship, Peking University, 2024
- Outstanding Teaching Assistant Award (1st rank among all candidates), Peking University, 2023