Keyu Chen

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CurryChen77 | Google Scholar

Beijing, China

RESEARCH INTERESTS

My research centers on traffic simulation and motion planning for autonomous driving, with a particular emphasis on creating realistic, interactive, and controllable traffic scenarios. I am passionate about developing reliable closed-loop simulation frameworks to accelerate the safe, robust, and scalable advancement of autonomous driving systems.

EDUCATION

- **Tsinghua University (THU)** *September 2023 - July 2028(Expected)*
  Ph.D. student at the School of Vehicle and Mobility, supervised by Prof. Sifa Zheng. Beijing, China
- **Nanjing University of Aeronautics and Astronautics (NUAA)** *September 2019 - July 2023*
  B.Eng. in Vehicle Engineering. Grade: 4.1/5 (Top 2%) Nanjing, China

FIRST AUTHOR PUBLICATIONS

[arXiv 2025] RIFT: Group-Relative RL Fine-Tuning for Realistic and Controllable Traffic Simulation.
Keyu Chen, Wenchao Sun, Hao Cheng, Sifa Zheng.
Paper, Project Page, Code

[CoRL 2025] FREA: Feasibility-Guided Generation of Safety-Critical Scenarios with Reasonable Adversariality.
Keyu Chen, Yuheng Lei, Hao Cheng, Haoran Wu, Wenchao Sun, Sifa Zheng. (**Oral 4.3%**)
Paper, Project Page, Code

[KBS 2023] IGT: Illumination-guided RGB-T object detection with transformers.
Keyu Chen, Jinqiang Liu, Han Zhang. (Bachelors thesis)
Paper

CO-AUTHOR PUBLICATIONS

[arXiv 2025] DriveCamSim: Generalizable Camera Simulation via Explicit Camera Modeling for Autonomous Driving.
Wenchao Sun, Xuewu Lin, **Keyu Chen**, Zixiang Pei, Yining Shi, Chuang Zhang, Sifa Zheng.
Paper, Code

[TRC 2025] Emergency Index (EI): A two-dimensional surrogate safety measure considering vehicles interaction depth.
Hao Cheng, Yanbo Jiang, Hailun Zhang, **Keyu Chen**, Heye Huang, Shaobing Xu, Jianqiang Wang, Sifa Zheng.
Paper, Code

HONORS AND AWARDS

- **Outstanding Graduate (Top 1%), NUAA** *June 2023*
- **Outstanding Bachelor Thesis Award (Top 5%), NUAA** *June 2023*
- **National Scholarship (Top 1%), NUAA** *December 2021*