

Kashyap Chitta

Postdoctoral Researcher

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Employment

2025 – Now | **NVIDIA, Germany**
Postdoctoral Researcher; [Autonomous Vehicle Research Group](#)
Visiting Researcher; [Autonomous Vision Group](#), [University of Tübingen](#)

- *Role:* Research focused on simulation-based training and evaluation of embodied AI systems.

Education

2019 – 2025 | **University of Tübingen, Germany**
PhD in Computer Science; [Autonomous Vision Group](#)

- *Advisor:* [Prof. Andreas Geiger](#)
- *Scholarship:* [International Max Planck Research School for Intelligent Systems \(IMPRS-IS\)](#)
- *Thesis:* Scalability-Driven Design for Autonomous Vehicles

2017 – 2018 | **Carnegie Mellon University, USA**
Master of Science in Computer Vision

- *Advisor:* [Prof. Martial Hebert](#)
- *Thesis project:* Exploiting Synthetic Data for Street Scene Segmentation
- *GPA:* 4.15/4.33
- *Selected courses:* Visual Learning and Recognition, Deep Reinforcement Learning, Geometry Based Methods in Vision, Statistical Techniques in Robotics

2013 – 2017 | **RV College of Engineering, India**
Bachelor of Engineering in Electronics and Communication

- *Thesis project:* Monocular Visual SLAM with a Rotating Mirror
- *GPA:* 9.11/10.0

Awards

2024

- I was named an [outstanding reviewer](#) at ECCV 2024 (198/7293 reviewers, top 3%).
- Our approach GenDM ranked **second** on the [2024 Dataset Distillation Challenge](#) generative track and won the **best paper award** at the challenge ECCV workshop.
- Our approach TF++ ranked **first** on the [2024 CARLA AD Challenge](#) map track (40 participating teams).

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| 2023 | <ul style="list-style-type: none"> • Our approach TF++ ranked second on the 2023 CARLA AD Challenge (20 participating teams). • I was named a top reviewer at NeurIPS 2023 (1196/11725 reviewers, top 10%). • I was named an outstanding reviewer at ICCV 2023 (130/7000 reviewers, top 2%). • I was selected for the doctoral consortium at ICCV 2023 (38 accepted participants). • Our approach PDM ranked first on the 2023 nuPlan Planning Challenge (52 participating teams). • I was named an outstanding reviewer at CVPR 2023 (232/7000 reviewers, top 3%). • I was selected as a 2023 RSS Pioneer, (30/135 applicants, 22% acceptance rate). |
| 2022 | <ul style="list-style-type: none"> • Our approach MapTF++ ranked first on the 2022 CARLA AD Challenge map track. |
| 2021 | <ul style="list-style-type: none"> • Our approach TransFuser ranked second on the 2021 CARLA AD Challenge, (100+ participating teams). • Our new computer vision lecture won the 2021 CS teaching award at the University of Tübingen. |
| 2020 | <ul style="list-style-type: none"> • Our approach NEAT ranked second on the 2020 CARLA AD Challenge (45 participating teams). |

Supervision

2019 – Now

University of Tübingen, Germany

Master Thesis Advisor

- *Apr 2025 – Now*: [Micha Fauth](#) (Thesis: Waymo Open Scenario Generation Challenge)
- *Nov 2024 – Now*: [Long Nguyen](#) (Thesis: Waymo Open End-to-End Driving Challenge)
- *Jul 2024 – Apr 2025*: [Jens Beißwenger](#) (Thesis: Model-Based Reinforcement Learning for Autonomous Driving)
- *Jun 2024 – Feb 2025*: [Melanie Schneider](#) (Thesis: [Generative Dataset Distillation: A New Hope?](#))
- *Mar 2024 – Sep 2024*: [Julian Zimmerlin](#) (Thesis: [Tackling CARLA Leaderboard 2.0 with End-to-End Imitation Learning](#))
- *Feb 2023 – Aug 2023*: [Daniel Dauner](#) (Thesis: [Vehicle Motion Planning using Data-Driven Simulation](#))
- *Dec 2022 – Jun 2023*: [Luis Winckelmann](#) (Thesis: [LiDAR-based Object Detection for Planning Transformers](#))
- *Dec 2022 – Jun 2023*: [Tim Schreier](#) (Thesis: [On Offline Evaluation of 3D Object Detection for Autonomous Driving](#))
- *Nov 2022 – May 2023*: [Siddharth Ramrakhiani](#) (Thesis: [Vision Transformers for Autonomous Driving](#))
- *Nov 2022 – May 2023*: [Jovan Cicvaric](#) (Thesis: [Generative Dataset Distillation](#))
- *Mar 2021 – Sep 2021*: [Bernhard Jaeger](#) (Thesis: [Expert Drivers for Autonomous Driving](#))
- *Oct 2020 – Apr 2021*: [Micha Schilling](#) (Thesis: [Visual Abstractions for Autonomous Driving](#))

Teaching

2019 – Now

University of Tübingen, Germany

Lead Teaching Assistant

- Apr 2023 – Jul 2023: [Autonomous Vision](#) (seminar, 5 teams of 2 students)
- Apr 2022 – Jul 2022: [Autonomous Vision](#) (seminar, 8 teams of 2 students)

Teaching Assistant

- Apr 2021 – Jul 2021: [Computer Vision](#) (lecture, 150 students)
- Oct 2019 – Feb 2020: [Self-Driving Cars](#) (lecture, 80 students)

Internships

Jan 2019 –

NVIDIA, Santa Clara, USA

Aug 2019

Deep Learning Intern; [Autonomous Vehicles Applied Research](#)

- Mentor: [Dr. José M. Álvarez](#)
- Role: Research and development of an automatic dataset curation engine for the internal [MagLev](#) AI training and inference infrastructure, involving collaborations across multiple groups, which resulted in two publications.

May 2018 –

NVIDIA, Santa Clara, USA

Aug 2018

Software Intern; [Autonomous Vehicles Applied Research](#)

- Mentors: [Dr. José M. Álvarez](#), [Dr. Adam Lesnikowski](#)
- Role: Research on approximating Bayesian Neural Networks for Active Learning which resulted in a publication, and was subsequently incorporated into the data annotation platform for the autonomous vehicles group.

Academic Activities

Workshop Organization

- CVPR 2025: [Embodied Intelligence for Autonomous Systems on the Horizon](#), 11.06.2025.
- CoRL 2024: [Safe and Robust Robot Learning for Operation in the Real World](#), 09.11.2024.
- ECCV 2024: [Autonomous Vehicles meet Multimodal Foundation Models](#), 29.09.2024.
- CVPR 2024: [Foundation Models for Autonomous Systems](#), 17.06.2024.
- CVPR 2023: [End-to-End Autonomous Driving: Emerging Tasks and Challenges](#), 18.06.2023.
- ICLR 2023: [Scene Representations for Autonomous Driving](#), 05.05.2023.

Invited Talks

- Specializing General-Purpose Video Diffusion Models. [ECCV Tutorial: Recent Advances in Video Content Understanding and Generation](#), Milan, 30.09.2024.
- Synthesizing Simulation Environments with Generative Models. [CVPR Workshop on Data-Driven Autonomous Driving Simulation](#), Seattle, 18.06.2024.
- Benchmarking Foundation Models for Autonomous Driving. [CVPR Tutorial: Towards Building AGI in Autonomy and Robotics](#), Seattle, 18.06.2024.
- Non-Reactive Autonomous Vehicle Simulation and Benchmarking. [CVPR Workshop on Autonomous Driving](#), Seattle, 17.06.2024.
- Reading, Writing, and Reviewing for Robotics and Computer Vision Research. [Sogang University Applied Data](#)

[Engineering Seminar](#), Virtual, 07.06.2023.

- [End-to-End Driving with Attention](#). [ICRA Workshop on Scalable Autonomous Driving](#), London, 02.06.2023.
- [Imitation via Abstraction and Planning](#). [ETH Computer Vision Lab](#), Zürich, 20.02.2023.
- [Imitation with Transformer-based Sensor Fusion for Autonomous Driving](#). [University of Toronto AI in Robotics Seminar](#), Virtual, 28.03.2022.

Reviewing and Service

- *Journal Reviewer*: T-PAMI, IJCV, T-RO, RA-L, T-IP, T-ITS, T-IV
- *Conference Reviewer*: CVPR, ICCV, ECCV, WACV, CoRL, ICRA, IROS, NeurIPS, ICLR, IV
- *Publicity Chair*: [RSS Pioneers 2024](#)
- *Program Chair*: [ICLR 2023 SR4AD Workshop](#), [ECCV 2024 MLLMAV Workshop](#)
- *Evaluator*: [ELLIS PhD Program, 2022-2024](#), [IMPRS-IS PhD Program, 2023-2024](#)

Publications

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| 2025 | [1] C. Sima, K. Chitta , Z. Yu, S. Lan, P. Luo, A. Geiger, H. Li, and J. M. Alvarez, “Centaur: Robust end-to-end autonomous driving with test-time training,” in <i>Workshop on Test-time Scaling for Computer Vision, Conference on Computer Vision and Pattern Recognition (CVPR)</i> , 2025. |
| 2024 | [2] L. Chen, P. Wu, K. Chitta , B. Jaeger, A. Geiger, and H. Li, “End-to-end autonomous driving: Challenges and frontiers,” <i>Transactions on Pattern Analysis and Machine Intelligence (T-PAMI)</i> , 2024. |
| | [3] K. Chitta , D. Dauner, and A. Geiger, “Sledge: Synthesizing driving environments with generative models and rule-based traffic,” in <i>European Conference on Computer Vision (ECCV)</i> , 2024. |
| | [4] D. Dauner, M. Hallgarten, T. Li, X. Weng, Z. Huang, Z. Yang, H. Li, I. Gilitschenski, B. Ivanovic, M. Pavone, A. Geiger, and K. Chitta , “Navsim: Data-driven non-reactive autonomous vehicle simulation and benchmarking,” in <i>Advances in Neural Information Processing Systems (NeurIPS)</i> , 2024. |
| | [5] S. Gao, J. Yang, L. Chen, K. Chitta , Y. Qiu, A. Geiger, J. Zhang, and H. Li, “Vista: A generalizable driving world model with high fidelity and versatile controllability,” in <i>Advances in Neural Information Processing Systems (NeurIPS)</i> , 2024. |
| | [6] M. Schneider, J. Cicvaric, A. Sauer, A. Geiger, and K. Chitta , “Generative dataset distillation: A new hope,” in <i>Workshop on the Dataset Distillation Challenge, European Conference on Computer Vision (ECCV)</i> , 2024. |
| | [7] C. Sima, K. Renz, K. Chitta , L. Chen, H. Zhang, C. Xie, J. Beißwenger, P. Luo, A. Geiger, and H. Li, “Drivelm: Driving with graph visual question answering,” in <i>European Conference on Computer Vision (ECCV)</i> , 2024. |
| | [8] J. Yang, S. Gao, Y. Qiu, L. Chen, T. Li, B. Dai, K. Chitta , P. Wu, J. Zeng, P. Luo, J. Zhang, A. Geiger, Y. Qiao, and H. Li, “Generalized predictive model for autonomous driving,” in <i>Conference on Computer Vision and Pattern Recognition (CVPR)</i> , 2024. |
| | [9] J. Zimmerlin, J. Beißwenger, B. Jaeger, A. Geiger, and K. Chitta , “Hidden biases of end-to-end driving datasets,” in <i>Workshop on Foundation Models for Autonomous Systems (FM4AS), Conference on Computer Vision and Pattern Recognition (CVPR)</i> , 2024. |

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| 2023 | <p>[10] K. Chitta, A. Prakash, B. Jaeger, Z. Yu, K. Renz, and A. Geiger, "Transfuser: Imitation with transformer-based sensor fusion for autonomous driving," <i>Transactions on Pattern Analysis and Machine Intelligence (T-PAMI)</i>, 2023.</p> <p>[11] D. Dauner, M. Hallgarten, A. Geiger, and K. Chitta, "Parting with misconceptions about learning-based vehicle motion planning," in <i>Conference on Robot Learning (CoRL)</i>, 2023.</p> <p>[12] B. Jaeger, K. Chitta, and A. Geiger, "Hidden biases of end-to-end driving models," in <i>International Conference on Computer Vision (ICCV)</i>, 2023.</p> <p>[13] T. Schreier, K. Renz, A. Geiger, and K. Chitta, "On offline evaluation of 3d object detection for autonomous driving," in <i>Workshop on Robustness and Reliability of Autonomous Vehicles in the Open-world (BRAVO), International Conference on Computer Vision (ICCV)</i>, 2023.</p> |
| 2022 | <p>[14] N. Hanselmann, K. Renz, K. Chitta, A. Bhattacharyya, and A. Geiger, "King: Generating safety-critical driving scenarios for robust imitation via kinematics gradients," in <i>European Conference on Computer Vision (ECCV)</i>, 2022.</p> <p>[15] K. Renz, K. Chitta, O.-B. Mercea, A. S. Koepke, Z. Akata, and A. Geiger, "Plant: Explainable planning transformers via object-level representations," in <i>Conference on Robot Learning (CoRL)</i>, 2022.</p> |
| 2021 | <p>[16] K. Chitta, J. M. Alvarez, E. Haussmann, and C. Farabet, "Training data subset search with ensemble active learning," <i>Transactions on Intelligent Transportation Systems (T-ITS)</i>, 2021.</p> <p>[17] K. Chitta, A. Prakash, and A. Geiger, "Neat: Neural attention fields for end-to-end autonomous driving," in <i>International Conference on Computer Vision (ICCV)</i>, 2021.</p> <p>[18] A. Prakash, K. Chitta, and A. Geiger, "Multi-modal fusion transformer for end-to-end autonomous driving," in <i>Conference on Computer Vision and Pattern Recognition (CVPR)</i>, 2021.</p> <p>[19] A. Sauer, K. Chitta, J. Muller, and A. Geiger, "Projected gans converge faster," in <i>Advances in Neural Information Processing Systems (NeurIPS)</i>, 2021.</p> <p>[20] M. A. Weis, K. Chitta, Y. Sharma, W. Brendel, M. Bethge, A. Geiger, and A. S. Ecker, "Benchmarking unsupervised object representations for video sequences," <i>Journal of Machine Learning Research (JMLR)</i>, 2021.</p> |
| 2020 | <p>[21] A. Behl, K. Chitta, A. Prakash, E. Ohn-Bar, and A. Geiger, "Label efficient visual abstractions for autonomous driving," in <i>International Conference on Intelligent Robots and Systems (IROS)</i>, 2020.</p> <p>[22] K. Chitta, J. M. Alvarez, and M. Hebert, "Quadtree generating networks: Efficient hierarchical scene parsing with sparse convolutions," in <i>Winter Conference on Applications of Computer Vision (WACV)</i>, 2020.</p> <p>[23] E. Haussmann, M. Fenzi, K. Chitta, J. Ivaneky, H. Xu, D. Roy, A. Mittel, N. Koumchatzky, C. Farabet, and J. M. Alvarez, "Scalable active learning for object detection," in <i>Intelligent Vehicles Symposium (IV)</i>, 2020.</p> <p>[24] E. Ohn-Bar, A. Prakash, A. Behl, K. Chitta, and A. Geiger, "Learning situational driving," in <i>Conference on Computer Vision and Pattern Recognition (CVPR)</i>, 2020.</p> <p>[25] A. Prakash, A. Behl, E. Ohn-Bar, K. Chitta, and A. Geiger, "Exploring data aggregation in policy learning for vision-based urban autonomous driving," in <i>Conference on Computer Vision and Pattern Recognition (CVPR)</i>, 2020.</p> |

- 2018 [26] **K. Chitta**, “Targeted kernel networks: Faster convolutions with attentive regularization,” in *Workshop on Compact and Efficient Feature Representation and Learning in Computer Vision (CEFRL), European Conference on Computer Vision (ECCV)*, 2018.
- [27] **K. Chitta**, J. M. Alvarez, and A. Lesnikowski, “Deep probabilistic ensembles: Approximate variational inference through kl regularization,” in *Workshop on Bayesian Deep Learning (BDL), Conference on Neural Information Processing Systems (NeurIPS)*, 2018.
- 2016 [28] **K. Chitta** and N. N. Sajjan, “A reduced region of interest based approach for facial expression recognition from static images,” in *IEEE Region-10 Conference (TENCON)*, 2016.

References

Prof. Andreas Geiger. Head of the Dept. of Computer Science, University of Tübingen. a.geiger@uni-tuebingen.de

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