

Kashyap Chitta

Postdoctoral Researcher

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Employment

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| 2025 – Now | NVIDIA, Germany
<i>Postdoctoral Researcher; Autonomous Vehicle Research Group</i>
<i>Visiting Researcher; Autonomous Vision Group, University of Tübingen</i> <ul style="list-style-type: none">• <i>Role:</i> Research focused on simulation-based training and evaluation of Physical AI systems. |
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Education

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| 2019 – 2025 | University of Tübingen, Germany
<i>PhD in Computer Science; Autonomous Vision Group</i> <ul style="list-style-type: none">• <i>Advisor:</i> Prof. Andreas Geiger• <i>Scholarship:</i> International Max Planck Research School for Intelligent Systems (IMPRS-IS)• <i>Thesis:</i> Towards Scalable Autonomous Driving |
| 2017 – 2018 | Carnegie Mellon University, USA
<i>Master of Science in Computer Vision</i> <ul style="list-style-type: none">• <i>Advisor:</i> Prof. Martial Hebert• <i>Thesis project:</i> Exploiting Synthetic Data for Street Scene Segmentation• <i>GPA:</i> 4.15/4.33• <i>Selected courses:</i> Visual Learning and Recognition, Deep Reinforcement Learning, Geometry Based Methods in Vision, Statistical Techniques in Robotics |
| 2013 – 2017 | RV College of Engineering, India
<i>Bachelor of Engineering in Electronics and Communication</i> <ul style="list-style-type: none">• <i>Thesis project:</i> Monocular Visual SLAM with a Rotating Mirror• <i>GPA:</i> 9.11/10.0 |

Awards

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| 2025 | <ul style="list-style-type: none">• Our approach VaVAM-ECO ranked first on the 2025 RealADSim Closed-Loop Driving Challenge.• Our approach DiffusionLTF ranked second on the 2025 Waymo Vision-based End-to-End Driving Challenge.• Our approach SHRED ranked third on the 2025 Waymo Scenario Generation Challenge. |
| 2024 | <ul style="list-style-type: none">• 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's ECCV workshop.• Our approach TF++ ranked first on the 2024 CARLA AD Challenge map track (40 participating teams). |

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).

Internships

Jan 2019 – Aug 2019	NVIDIA, Santa Clara, USA <i>Deep Learning Intern; Autonomous Vehicle Applied Research</i> <ul style="list-style-type: none"> • <i>Mentor:</i> Dr. José M. Álvarez • <i>Role:</i> 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 – Aug 2018	NVIDIA, Santa Clara, USA <i>Software Intern; Autonomous Vehicle Applied Research</i> <ul style="list-style-type: none"> • <i>Mentors:</i> Dr. José M. Álvarez, Dr. Adam Lesnikowski • <i>Role:</i> 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.

Teaching

2019 – Now	University of Tübingen, Germany <i>Lead Teaching Assistant</i> <ul style="list-style-type: none"> • <i>Apr 2023 – Jul 2023:</i> Autonomous Vision (seminar, 5 teams of 2 students) • <i>Apr 2022 – Jul 2022:</i> Autonomous Vision (seminar, 8 teams of 2 students) <i>Teaching Assistant</i> <ul style="list-style-type: none"> • <i>Apr 2021 – Jul 2021:</i> Computer Vision (lecture, 150 students) • <i>Oct 2019 – Feb 2020:</i> Self-Driving Cars (lecture, 80 students)
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Supervision

2024 – Now

University of Toronto, Canada

Research Project Advisor

- Aug 2025 – Now: [Brayden Zhang](#) (Project: Optimization and Fine-Tuning of End-to-End Driving Foundation Models)
- Dec 2024 – Dec 2025: [Xunjiang Gu](#) (Project: Model-Based Reinforcement Learning for Robust Autonomous Vehicle Control)

2019 – Now

University of Tübingen, Germany

Master Thesis Advisor

- Apr 2025 – Nov 2025: [Micha Fauth](#) (Thesis: [Evaluating Traffic and Scenario Generation using Fidelity and Diversity Metrics](#))
- May 2025 – Oct 2025: [Long Nguyen](#) (Thesis: [Addressing the Fundamental Barriers towards End-to-End Driving in Simulation](#))
- Nov 2024 – Apr 2025: [Jens Beißwenger](#) (Thesis: [Enhancing Model-Based Reinforcement Learning for Autonomous Driving](#))
- Sep 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](#))

Research Project Advisor

- Jun 2024 – Oct 2024: [Zhengyu Su](#) (Project: [Dataset Distillation for Autonomous Driving](#))
- Nov 2023 – Apr 2024: [Jens Beißwenger](#) (Project: [PDM-Lite: A Rule-Based Planner for CARLA Leaderboard 2.0](#))
- Apr 2022 – Sep 2022: [Alexander Braun](#) and [Luis Winckelmann](#) (Project: [Infraction Visualization and Clustering for Better Agent Evaluation in CARLA](#))

Academic Activities

Workshop Organization

- CVPR 2026: Simulation for Autonomous Driving, 03.06.2026.
- ICCV 2025: [Learning to See: Advancing Spatial Understanding for Embodied Intelligence](#), 19.10.2025.
- 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.

Recorded 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](#)
- *Area Chair*: [CoRL 2025 SAFE-ROL Workshop](#)
- *Evaluator*: [ELLIS PhD Program, 2022-2024](#), [IMPRS-IS PhD Program, 2023-2024](#)

Publications

All publications listed here have been accepted following peer review. For the latest publications (including pre-prints) and detailed citation statistics, see scholar.google.com.

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

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

2024	<p>Chen, L., Wu, P., Chitta, K., Jaeger, B., Geiger, A., & Li, H. (2024). End-to-end autonomous driving: Challenges and frontiers. <i>Transactions on Pattern Analysis and Machine Intelligence (T-PAMI)</i>.</p> <p>Chitta, K., Dauner, D., & Geiger, A. (2024). Sledge: Synthesizing driving environments with generative models and rule-based traffic. <i>European Conference on Computer Vision (ECCV)</i>.</p> <p>Dauner, D., Hallgarten, M., Li, T., Weng, X., Huang, Z., Yang, Z., Li, H., Gilitschenski, I., Ivanovic, B., Pavone, M., Geiger, A., & Chitta, K. (2024). Navsim: Data-driven non-reactive autonomous vehicle simulation and benchmarking. <i>Advances in Neural Information Processing Systems (NeurIPS)</i>.</p> <p>Gao, S., Yang, J., Chen, L., Chitta, K., Qiu, Y., Geiger, A., Zhang, J., & Li, H. (2024). Vista: A generalizable driving world model with high fidelity and versatile controllability. <i>Advances in Neural Information Processing Systems (NeurIPS)</i>.</p> <p>Schneider, M., Cicvaric, J., Sauer, A., Geiger, A., & Chitta, K. (2024). Generative dataset distillation: A new hope? <i>Workshop on the Dataset Distillation Challenge, European Conference on Computer Vision (ECCV)</i>.</p> <p>Sima, C., Renz, K., Chitta, K., Chen, L., Zhang, H., Xie, C., Beißwenger, J., Luo, P., Geiger, A., & Li, H. (2024). Drivelm: Driving with graph visual question answering. <i>European Conference on Computer Vision (ECCV)</i>.</p> <p>Yang, J., Gao, S., Qiu, Y., Chen, L., Li, T., Dai, B., Chitta, K., Wu, P., Zeng, J., Luo, P., Zhang, J., Geiger, A., Qiao, Y., & Li, H. (2024). Generalized predictive model for autonomous driving. <i>Conference on Computer Vision and Pattern Recognition (CVPR)</i>.</p> <p>Zimmerlin, J., Beißwenger, J., Jaeger, B., Geiger, A., & Chitta, K. (2024). Hidden biases of end-to-end driving datasets. <i>Workshop on Foundation Models for Autonomous Systems (FM4AS), Conference on Computer Vision and Pattern Recognition (CVPR)</i>.</p>
2025	<p>Cao, W., Hallgarten, M., Li, T., Dauner, D., Gu, X., Wang, C., Miron, Y., Aiello, M., Li, H., Gilitschenski, I., Ivanovic, B., Pavone, M., Geiger, A., & Chitta, K. (2025). Pseudo-simulation for autonomous driving. <i>Conference on Robot Learning (CoRL)</i>.</p> <p>Fauth, M., Nguyen, L., Jaeger, B., Dauner, D., Igl, M., Geiger, A., & Chitta, K. (2025). Shred: Synthesizing rule-based environments for driving. <i>Workshop on Autonomous Driving (WAD), Conference on Computer Vision and Pattern Recognition (CVPR)</i>.</p> <p>Jaeger, B., Dauner, D., Beißwenger, J., Gerstenecker, S., Chitta, K., & Geiger, A. (2025). Carl: Learning scalable planning policies with simple rewards. <i>Conference on Robot Learning (CoRL)</i>.</p> <p>Nguyen, L., Fauth, M., Jaeger, B., Dauner, D., Igl, M., Geiger, A., & Chitta, K. (2025). Open x-av: Unifying end-to-end autonomous driving datasets. <i>Workshop on Autonomous Driving (WAD), Conference on Computer Vision and Pattern Recognition (CVPR)</i>.</p> <p>Sima, C., Chitta, K., Yu, Z., Lan, S., Luo, P., Geiger, A., Li, H., & Alvarez, J. M. (2025). Centaur: Robust end-to-end autonomous driving with test-time training. <i>Workshop on Test-time Scaling for Computer Vision, Conference on Computer Vision and Pattern Recognition (CVPR)</i>.</p> <p>Yang, J., Chitta, K., Gao, S., Chen, L., Shao, Y., Jia, X., Li, H., Geiger, A., Yue, X., & Chen, L. (2025). Resim: Reliable world simulation for autonomous driving. <i>Advances in Neural Information Processing Systems (NeurIPS)</i>.</p>

References

Prof. Andreas Geiger. Head of the Dept. of Computer Science, University of Tübingen.	a.geiger@uni-tuebingen.de
Prof. Marco Pavone. Director, Autonomous Vehicles Research, NVIDIA.	mpavone@nvidia.com
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