SHERWIN BAHMANI

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EDUCATION

Ph.D. Computer Science, University of Toronto — Since Sep 2023

- Focus: Computer Vision, Computer Graphics, Machine Learning
- Advisors: David Lindell, Andrea Tagliasacchi

M.Sc. Computational Engineering, Technical University of Darmstadt — Apr 2018 - Sep 2021

- Focus: Computer Vision, Machine Learning
- Advisor: Stefan Roth

B.Sc. Mechanical and Process Engineering, Technical University of Darmstadt — Oct 2014 - Apr 2018

- Focus: Mechatronics

RESEARCH EXPERIENCE

Research Intern: NVIDIA — Since Feb 2025

- Spatial Intelligence Lab: Video and 3D generative models
- Advisors: Huan Ling, Xuanchi Ren, Jun Gao, Zan Gojcic, Sanja Fidler

Research Intern: Snap Inc. — Feb 2024 - Jan 2025

- Creative Vision Group: 3D camera control in video diffusion transformers
- Advisors: Sergey Tulyakov, Ivan Skorokhodov, Aliaksandr Siarohin

Research Intern: Simon Fraser University — Jun 2023 - Aug 2023

- GrUVi Lab: Text-to-4D generation
- Advisor: Andrea Tagliasacchi
- Collaborators: Ivan Skorokhodov, Sergey Tulyakov, Jeong Joon Park, David Lindell

Research Intern: Stanford University — Jul 2022 - Nov 2022

- Geometric Computation Group: Compositional and controllable generation of 3D scenes
- Advisors: Jeong Joon Park, Despoina Paschalidou, Gordon Wetzstein, Leonidas Guibas
- Collaborator: Andrea Tagliasacchi

Research Intern: ETH Zurich — Jan 2022 - Jun 2022

- Computer Vision Lab: 4D generative adversarial networks
- Advisors: Hao Tang, Radu Timofte, Luc Van Gool
- Collaborators: Jeong Joon Park, Despoina Paschalidou, Gordon Wetzstein, Leonidas Guibas

Research Intern: École Polytechnique Fédérale de Lausanne (EPFL) — Oct 2021 - Nov 2021

- Visual Intelligence for Transportation Lab: Causal motion forecasting for out-of-distribution robustness
- Advisors: Yuejiang Liu, Alexandre Alahi

Student Research Assistant: Technical University of Darmstadt — Apr 2021 - Oct 2021

- Visual Inference Lab: Video frame interpolation and optical flow estimation
- Advisors: Simone Schaub-Meyer, Stefan Roth

Master Thesis: Mercedes-Benz AG / Technical University of Darmstadt — Sep 2020 - Mar 2021

- Image Understanding Group: Multi-scale value iteration networks for panoptic segmentation
- Advisors: Jonas Uhrig, Marius Cordts, Stefan Roth

Working Student: Mercedes-Benz AG — Mar 2020 - Sep 2020

- Image Understanding Group: Instance and panoptic segmentation
- Advisors: Jonas Uhrig, Uwe Franke

Bachelor Thesis: Fraunhofer LBF Nov 2017 - Apr 2018

- Reliability of Electric Vehicles: Battery aging forecasting using nonlinear regression
- Advisors: Alexander Dautfest, Tobias Melz

WORK EXPERIENCE

Intern: Daimler AG Aug 2019 - Feb 2020

- Electric Powertrain Development: Software engineering for automated hybrid powertrain designs

Intern: Porsche AG Apr 2017 - Sep 2017

- Digital Powertrain Development: Software engineering for damage calculation in electric powertrains

ACADEMIC SERVICE

Reviewer: CVPR, ICCV, ECCV, SIGGRAPH, SIGGRAPH Asia, NeurIPS, ICLR, ICML, TPAMI, TVCG, Eurographics, Pacific Graphics, IEEE MultiMedia

PUBLICATIONS / PREPRINTS

[1] **S.Bahmani**, T. Shen, J. Ren, J. Huang, Y. Jiang, H. Turki, A. Tagliasacchi, D. B. Lindell, Z. Gojcic, S. Fidler, H. Ling, J. Gao*, and X. Ren*, "Lyra: Generative 3d scene reconstruction via video diffusion model self-distillation", *arXiv preprint arXiv:2509.19296*, 2025.

[2] **S.Bahmani***, I. Skorokhodov*, G. Qian, A. Siarohin, W. Menapace, A. Tagliasacchi, D. B. Lindell, and S. Tulyakov, "AC3D: Analyzing and improving 3d camera control in video diffusion transformers", *CVPR*, 2025.

[3] **S.Bahmani**, I. Skorokhodov, A. Siarohin, W. Menapace, G. Qian, M. Vasilkovsky, H.-Y. Lee, C. Wang, J. Zou, A. Tagliasacchi, D. B. Lindell, and S. Tulyakov, "VD3D: Taming large video diffusion transformers for 3d camera control", *ICLR*, 2025.

[4] K. Namekata, **S.Bahmani**, Z. Wu, Y. Kant, I. Gilitschenski, and D. B. Lindell, "SG-I2V: Self-guided trajectory control in image-to-video generation", *ICLR*, 2025.

[5] V. Rong, J. Chen, **S.Bahmani**, K. N. Kutulakos, and D. B. Lindell, "Gstex: Per-primitive texturing of 2d gaussian splatting for decoupled appearance and geometry modeling", *WACV*, 2025.

[6] **S. Bahmani***, X. Liu*, W. Yifan*, I. Skorokhodov, V. Rong, Z. Liu, X. Liu, J. J. Park, S. Tulyakov, G. Wetzstein, A. Tagliasacchi, and D. B. Lindell, "TC4D: Trajectory-conditioned text-to-4d generation", *ECCV*, 2024.

[7] **S. Bahmani**, I. Skorokhodov, V. Rong, G. Wetzstein, L. Guibas, P. Wonka, S. Tulyakov, J. J. Park, A. Tagliasacchi, and D. B. Lindell, "4D-fy: Text-to-4d generation using hybrid score distillation sampling", *CVPR*, 2024.

[8] **S. Bahmani**, J. J. Park, D. Paschalidou, X. Yan, G. Wetzstein, L. Guibas, and A. Tagliasacchi, "CC3D: Layout-conditioned generation of compositional 3d scenes", *ICCV*, 2023.

[9] **S. Bahmani**, J. J. Park, D. Paschalidou, H. Tang, G. Wetzstein, L. Guibas, L. Van Gool, and R. Timofte, "3D-aware video generation", *TMLR*, 2023.

[10] **S. Bahmani***, O. Hahn*, E. Zamfir*, N. Araslanov, D. Cremers, and S. Roth, "Semantic self-adaptation: Enhancing generalization with a single sample", *TMLR*, 2023.

[11] Y. Liu, R. Cadei*, J. Schweizer*, **S. Bahmani**, and A. Alahi, "Towards robust and adaptive motion forecasting: A causal representation perspective", *CVPR*, 2022.