curriculum vitæ of
Chuan Guo
https://ericguo5513.github.io/ cguo2@snapchat.com
+1 551 799 2860 google scholar
Last update: 09/25

Research Interests

Fields: Computer Vision, Computer Graphics, Machine Learning
Topics: Generative AI for Digital Human Performance, Character Animation, VR.

Education

Sep. 2019 – Jan. 2024 **Ph.D.** in Software Engineering and Intelligent Systems — University of Alberta, Canada
Dept. of Electrical and Computer Engineering

- Advisor: Prof. Li Cheng
- Thesis: Deep Learning for 3D Human Action Modeling and Understanding

Sep. 2013 – Jul. 2017 **B.Eng.** in Software Engineering (Pilot Program) — Jilin University, China
College of Software

Employment

Aug 2025 – Present Reality labs, Meta Inc. — Redmond, USA
Research Scientist

May 2024 – Aug 2025 Snap Research, Snap Inc. — New York, USA
Research Scientist

Sep. 2019 – Jan. 2024 Vision and Learning Lab, University of Alberta — Edmonton, Canada
Research Assistant. Supervisor: Prof. Li Cheng

Nov. 2022 – Dec. 2023 Huawei Technologies Canada Co., Ltd. — Markham, Canada
Associate Researcher, Intern. Mentor: Dr. Juwei Lu

Jan. 2021 – Jan. 2022 Huawei Technologies Canada Co., Ltd. — Edmonton, Canada
Associate Researcher, Intern. Mentor: Wei Lu

Apr. 2019 – Aug. 2019 Wangle Hulian Beijing Technology Co.Ltd — Beijing, China
Algorithm Engineer, Intern. Mentor: Haibo Gu

Oct. 2016 – Mar. 2019 Institute of Computing Technology, Chinese Academy of Sciences — Beijing, China
Research Assistant. Mentor: Dr. Juan Cao

Projects

May 2024 – Aug 2025 **Generative AI for 3D Character Animation** — Snap Research

1. Design, implement, and experiment AI models that enable automated production of 3D animation of expressive styles and precise control [10].
2. Collect and annotate high-quality large-scale 3D motion capture data [8].
3. Lead research projects on 3D human interaction synthesis [2, 4, 3] and re-targeting [5].

Jan. 2021 – Dec. 2023 **Language Grounded 3D Human Behavior Modeling and Understanding** — University of Alberta

1. Aimed to synthesize 3d human behaviors from text descriptions or in the inverse way, i.e. understand human behaviors through texts.
2. Annotated so-far the largest motion-language dataset, with 15k motions captioned by 50k descriptions.
3. A novel approach that generates realistic human motion with temporal VAE and RNNs (Demo) [18].
4. Built mutual mappings between 3D human motions and texts, motion captioning and text2motion generation respectively, using vector quantization and Transformers. [17]
5. A motion generator and editor based on generative masked Transformer and residual quantization. [12].

Feb. 2023 – Dec. 2023 **Generative Human Motion Stylization** — Huawei Technologies Canada

1. The goal is to stylize an existing 3D motion with style clues from for example, motion, label or priors.
2. Found that stylizing motion in latent space is more efficient than in pose space.
3. Designed a generative framework which enables diverse and novel stylization (Demo) [14].

Sep. 2019 – Jan. 2021 **3D Human Action and Video Generation** UNIVERSITY OF ALBERTA

1. The topic is to generate human behaviors conditioned on action categories.
2. Synthesized visually pleasing human motions by a novel VAE-based (i.e. Variational AutoEncoder) network with Lie pose representation, and curated own dataset (Demo Webpage) [19].
3. Built up a novel pipeline to generate human videos from action type & single image with graphics & machine learning apparatus (Demo) [13].

Oct. 2016 – Mar. 2019 **News Credibility Evaluation on Social Media** ICT, CHINESE ACADEMY OF SCIENCES

1. Designed, implemented and deployed algorithms for a real-time online news verification system.
2. Exploited the roles of emotion, multimodal contents and propagation for news credibility [25].
3. Developed a distributed crawling system that collected over 10 million posts from Weibo platform.

† Corresponding author.

PUBLICATIONS

† *Corresponding author.*

Topic: Human-Human/Scene/Object Interaction

[1] Sui, Keiwei, Anindita Ghosh, Inwoo Hwang, Jian Wang, **Chuan Guo**†. "*A Survey on Human Interaction Motion Generation*." Pre-print (Under Review). 2025.

[2] Hwang, Inwoo, Bing Zhou†, Young Min Kim, Jian Wang, **Chuan Guo**†. "*SceneMI: Motion In-betweening for Modeling Human-Scene Interactions*." IEEE International Conference on Computer Vision (ICCV, Highlight). 2025. (Accept rate: 24%)

[3] Ghosh, Anindita, Bing Zhou†, Rishabh Dabral, Jian Wang, Vladislav Golyanik, Christian Theobalt, Philipp Slusallek, **Chuan Guo**†. "*DuetGen: Music Driven Two-person Dance Generation vis Hierarchical Masked Modeling*." In Proceeding of ACM SIGGRAPH. 2025.

[4] Liu, Shaowei, **Chuan Guo**†, Bing Zhou†, Jian Wang†."*Ponimator: Unfolding Interactive Pose for Versatile Human-human Interaction Animation*." IEEE International Conference on Computer Vision (ICCV). 2025. (Accept rate: 24%)

[5] Wan, Weilin, **Chuan Guo**†, Jian Wang, Bing Zhou†."*InterRET: Self-Supervised Multi-Character Motion Retargeting*." Pre-print (Under review). 2025.

[6] Gohar, Muhammad, **Chuan Guo**, Li Cheng†, Xingyu Li. "*InterMask: 3D Human Motion Interaction Generation via Collaborative Masked Modeling*." In International Conference on Learning Representations (ICLR). 2025. (Accept rate: 32%)

[7] Wang, Yilin, **Chuan Guo**, Li Cheng†, Hai Jiang "*RegionGrasp: A Novel Task for Contact Region Controllable Hand Grasp Generation*." European Conference on Computer Vision Workshop (ECCVW). 2024.

Topic: Human Motion Synthesis and Manipulation

[8] **Guo, Chuan**†, Inwoo Hwang, Jian Wang, Bing Zhou†. "*SnapMoGen: SnapMoGen: Human Motion Generation from Expressive Texts*." The Thirty-Ninth Annual Conference on Neural Information Processing Systems. 2025. (Accept rate: 24.5%)

[9] Zhong, Lei, **Chuan Guo**, Yiming Xie, Jiawei Wang, Changjian Li†. "*Sketch2Anim: Transferring Sketch Storyboards into 3D Animation*." ACM Transactions on Graphics (In Proc. of SIGGRAPH). 2025.

[10] Pinyoanuntapong, Ekkasit, Usama Saleem, Korrawe Karunratanakul, Pu Wang, Hong Fei Xue, Chen Chen, **Chuan Guo**, Junli Cao, Jian Ren, Sergey Tulyakov†."*MaskControl: Spatio-Temporal Control for Masked Motion Synthesis*." IEEE International Conference on Computer Vision (ICCV, Best Paper Candidate, 13/11239). 2025. (Accept rate: 24%)

[11] Wang, Yilin, **Guo, Chuan**, Yuxuan Mu, Muhammad Gohar, Xinxin Zuo, Hai Jiang, Juwei Lu, Li Cheng†. "*MotionDreamer: One-to-More Motion Synthesis with Localized Generative Masked Transformer*." In International Conference on Learning Representations (ICLR). 2025. (Accept rate: 32%)

[12] **Guo, Chuan**, Yuxuan Mu, Muhammad Gohar Javed, Sen Wang, Li Cheng†. "*MoMask: Generative Masked Modeling of 3D Human Motions*." In Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR). 2024. (Accept rate: 23.6%)

[13] **Guo, Chuan**, Xinxin Zuo, Sen Wang, Xinshuang Liu, Shihao Zou, Minglun Gong, and Li Cheng†. "*Action2video: Generating Videos of Human 3D Actions.*" International Journal of Computer Vision (2022): 1-31.

[14] **Guo, Chuan**, Yuxuan Mu, Xinxin Zuo, Peng Dai, Youliang Yan, Juwei Lu, Li Cheng†. "*Generative Human Motion Stylization in Latent Space*." In International Conference on Learning Representations (ICLR). 2024. (Accept rate: 31%)

[15] Nhat M. Hoang, **Chuan Guo**, Michael Bi Mi and Kehong Gong†. "*MotionMix: Weakly-Supervised Diffusion for Controllable Motion Generation.*" The 38th Annual AAAI Conference on Artificial Intelligence (AAAI). 2024 (Accept rate: 23.75%)

[16] Gong, Kehong, Dongze Lian, Heng Chang, **Chuan Guo**, Xinxin Zuo, Zihang Jang and Xinchao Wang†. "*TM2D: Bimodality Driven 3D Dance Generation via Music-Text Integration.*" IEEE International Conference on Computer Vision. 2023. (Accept rate: 26.7%)

[17] **Guo, Chuan**, Xinxin Zuo, Sen Wang, and Li Cheng†. "*TM2T: Stochastic and Tokenized Modeling for the Reciprocal Generation of 3D Human Motions and Texts*." European Conference on Computer Vision (ECCV). 2022. (Accept rate: 28%)

[18] **Guo, Chuan**, Shihao Zou, Xinxin Zuo, Sen Wang, Wei Ji, Xingyu Li, and Li Cheng†. "*Generating Diverse and Natural 3D Human Motion from Text.*" In Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR). 2022. (Accept rate: 25.3%)

[19] **Guo, Chuan**, Xinxin Zuo, Sen Wang, Shihao Zou, Qingyao Sun, Annan Deng, Minglun Gong, and Li Cheng†. "*Action2Motion: Conditioned Generation of 3D Human Motions.*" In Proceedings of the 28th ACM International Conference on Multimedia, pp. 2021-2029. 2020. (Accept rate: 27.8%)

Topic: Human Pose Estimation

[20] Wang, Li, Yiyu Zhuang, Yanwen Wang, Xun Cao, **Chuan Guo**, Xinxin Zuo, Hao Zhu†. "*Efficient and Generalized Sketch to 3D Human Pose Prediction*." In Proceeding of ACM SIGGRAPH Asia.2025.

[21] Zou, Shihao, Xinxin Zuo, Sen Wang, Yiming Qian, **Chuan Guo**, and Li Cheng†. "*Human Pose and Shape Estimation from Single Polarization Images*." IEEE Transactions on Multimedia (2022).

[22] Zou, Shihao, **Chuan Guo**, Xinxin Zuo, Sen Wang, Pengyu Wang, Xiaoqin Hu, Shoushun Chen, Minglun Gong, Li Cheng†. "*EventHPE: Event-based 3-D Human Pose and Shape Estimation.*" IEEE International Conference on Computer Vision (ICCV), pp. 10996-11005. 2021. (Accept rate: 25.9%)

Topic: 3D Reconstruction

[23] Mu, Yuxuan, Xinxin Zuo, **Guo, Chuan**, Yilin Wang, Juewei Lu, Xiaofei Wu, Songcen Xu, Peng Dai, Youliang Yan, Li Cheng†. "*GSD: View-Guided Gaussian Splatting Diffusion for 3D Reconstruction.*" European conference on computer vision (ECCV). 2022. (Accept rate: 27.9%)

Topic: Others (Text mining, saliency detection)

[24] Ji, Wei, Jingjing Li, Qi Bi, **Chuan Guo**, Jie Liu, and Li Cheng†. "*Promoting Saliency From Depth: Deep Unsupervised RGB-D Saliency Detection.*" In International Conference on Learning Representations (ICLR). 2022. (Accept rate: 32%)

[25] **Guo, Chuan**, Juan Cao†, Xueyao Zhang, Kai Shu, and Miao Yu. "*Exploiting emotions for fake news detection on social media.*" Pre-print (2019).

Honors & Contest

Jul. 2023 **J Gordin Kaplan Graduate Student Award** (1500 CAD) University of Alberta

Feb. 2023	**Alberta Innovate Graduate Scholarship** (31000 CAD)	Alberta Province
Nov. 2021	**Alberta Graduate Excellence Scholarship** (12000 CAD)	Alberta Province
Oct. 2016	**Qihoo 360 Scholarship** (top 5 out of 1000, 10000 RMB)	Jilin University
Nov. 2015	**National Scholarship** (top 5 out of 281, 8000 RMB)	Ministry of Education
Dec. 2015	Excellent Student of Jilin University	Jilin University
2014, 2015	Second-level Scholarship of Jilin University	Jilin University
2015, 2016	College Excellent Student	Jilin University
May 2015	The 1_{st} Prize in *Jilin Provincial Mathematical Contest in Modeling*	Jilin Province

Academic Talks

Oct. 2025	**Invited Speaker at ICCV Tutorial** Topic: Kinematic-based Human Motion Synthesis	Hawaii, USA
Sep. 2025	**Invited Speaker at Tel-Aviv University** Topic: 3D Human Motion Generation from Expressive Texts	Tel Aviv, Israel
Feb. 2025	**Invited Speaker at Northeastern University** Topic: Generative Motion Modeling in Discrete Space	Boston, USA
Feb. 2025	**Invited Speaker at Northeastern University** Topic: Generative Motion Modeling in Discrete Space	Boston, USA
Feb. 2024	**Invited Speaker at MiHoYo** Topic: 3D Human Motion Generation with Discrete Representation	Montreal, Canada
Dec. 2023	**Invited Speaker at Institute of Computing Technology, CAS** Topic: 3D Human Motion Generation with Discrete Representation	Beijing, China
Dec. 2023	**Invited Speaker at Alberta Machine Intelligence Institute, AI Seminar** Topic: Exploring 3D Human Motions with Deep Learning	Alberta, Canada
Apr. 2023	**Invited Speaker at Computer Vision Meetup** Topic: Generating Diverse and Natural 3D Human Motion from Texts	Alberta, Canada
Dec. 2022	**Invited Speaker at AI TIME Seminar.** Topic: Reciprocal Generation of Human Motions and Texts	China

Professional Service

Organizer

Organizer, CVPR 2024-25 Workshop on Human Motion Generation

Organizer, ICCV 2025 Tutorial on 3D Human Motion Generation and Simulation Tutorial

Area Chair

3DV 2025, ICLR 2025

Reviewer

Conference Reviewer

SIGGRAPH Asia 2024-25, NeurIPS 2023-25, ICCV 2023,2025, SIGGRAPH 2024-25, ICML 2024-25, CVPR 2023-25, Eurographics 2022,2025, ICLR 2024-2025, AAAI 2023-2025, SIGGRAPH Asia 2024-25, ECCV 2024, MultiMedia 2024, ICCV 2023,2025, ACCV 2022, EMNLP 2021, ACML 2020-2021

Journals Reviewer

IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
IEEE Transactions on Visualization and Computer Graphics (TVCG)
IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)
IEEE Robotics and Automation Letters (RA-L)
IEEE Transactions on Multimedia (TMM)
IEEE Transactions on Neural Networks and Learning Systems (TNNLS)
Pattern Recognition (PR)
Machine Learning