Libin Liu | Assistant Professor, Peking University

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RESEARCH INTERESTS

embodied AI, character animation, robotics, and related areas such as physics-based simulation, motion control, and reinforcement learning

EDUCATION

Tsinghua University, Beijing, China

Ph.D., Institute for Advanced Study Major: Computer Science	September 2009 to July 2014
B.S., Fundamental Science Class Major: Mathematics and Physics	August 2005 to July 2009

EXPERIENCE

Peking University Assistant Professor	June 2020 to present
DeepMotion Inc. Chief Scientist	May 2017 to June 2020
Disney Research, Pittsburgh R&D Postdoctoral Associate	August 2015 to April 2017
The University of British Columbia Postdoctoral Research Fellow in Imager Lab, Department of Computer Science	August 2014 to July 2015

PROFESSIONAL ACTIVITIES

Associate Editor:
- IEEE Transactions on Visualization and Computer Graphics (TVCG), 2024 - now

Program Committee/Area Chair (selected):
- ACM SIGGRAPH North America 2019, 2020, 2024, 2025, Asia 2022, 2023
- Eurographics 2024, Short Papers 2020, 2021
- Pacific Graphics 2018, 2019, 2022, 2024
- ACM SIGGRAPH/Eurographics Symposium on Computer Animation (SCA) 2015- 2019, 2021-2024
- ACM SIGGRAPH Conference on Motion, Interaction and Games (MIG) 2014, 2016-2020, 2022
- Conference on Computer Animation and Social Agents (CASA) 2017, 2023

PUBLICATIONS   Heyuan Yao, Zhenhua Song, Yuyang Zhou, Tenglong Ao, Baoquan Chen, **Libin Liu**†. 2024. *MoConVQ: Unified Physics-Based Motion Control via Scalable Discrete Representations*. ACM Transactions on Graphics, Vol 43 Issue 4, Article 144

Zeyi Zhang*, Tenglong Ao*, Yuyao Zhang*, Qingzhe Gao, Chuan Lin, Baoquan Chen, **Libin Liu**†. 2024. *Semantic Gesticulator: Semantics-aware Co-speech Gesture Synthesis*. ACM Transactions on Graphics, Vol 43 Issue 4, Article 136

Yumeng Li, Bohong Chen, Zhong Ren, Yao-Xiang Ding, **Libin Liu**, Tianjia Shao, Kun Zhou. 2024. *CPoser: An Optimization-after-Parsing Approach for Text-to-Pose Generation Using Large Language Models.* ACM Transactions on Graphics, Vol 43 Issue 6, Article 196

Hongda Jiang, Xi Wang, Marc Christie, Libin Liu, Baoquan Chen. 2024. *Cinematographic Camera Diffusion Model*. Computer Graphics Forum, Volume 43 (2024) Issue 2

Yusen Feng, Xiyan Xu, **Libin Liu***. 2023. *MuscleVAE: Model-Based Controllers of Muscle-Actuated Characters*. ACM SIGGRAPH Asia 2023 (Conference Track)

Yiming Wang*, Qingzhe Gao*, **Libin Liu**†, Lingjie Liu†, Christian Theobalt, Baoquan Chen†. 2023. *Neural Novel Actor: Learning a Generalized Animatable Neural Representation for Human Actors.* IEEE Transactions on Visualization and Computer Graphics (TVCG), 2023

Tenglong Ao, Zeyi Zhang, **Libin Liu***. 2023. *GestureDiffuCLIP: Gesture Diffusion Model with CLIP Latents*. ACM Transactions on Graphics, Vol 42(2023), No. 4, Article 42. (**SIGGRAPH 2023 Honorable Mention Award**)

Wentao Zhu, Xiaoxuan Ma, Zhaoyang Liu, **Libin Liu**, Wayne Wu, Yizhou Wang. 2023. *MotionBERT: A Unified Perspective on Learning Human Motion Representations*. ICCV 2023.

Heyuan Yao, Zhenhua Song, Baoquan Chen, **Libin Liu***. 2022. *Control VAE: Model-Based Learning of Generative Controllers for Physics-Based Characters*. ACM Transactions on Graphics, Vol 41(2022), No. 6, Article 183.

Tenglong Ao, Qingzhe Gao, Yuke Lou, Baoquan Chen, **Libin Liu***. 2022. *Rhythmic Gesticulator: Rhythm-Aware Co-Speech Gesture Synthesis with Hierarchical Neural Embeddings*. ACM Transactions on Graphics, Vol 41(2022), No. 6, Article 209. (**SIGGRAPH Asia 2022 Best Paper Award**)

Yongjing Ye, **Libin Liu***, Lei Hu, Shihong Xia*. 2022. *Neural3Points: Learning to Generate Physically Realistic Full-body Motion for Virtual Reality Users*. Computer Graphics Forum, Vol 41 Issue 8, Page 183-194.

Zeshi Yang, KangKang Yin, **Libin Liu***. 2022. *Learning to Use Chopsticks in Diverse Gripping Styles*. ACM Transactions on Graphics, Vol. 41 (2022), No. 4, Article 95.

Hongda Jiang, Marc Christie, Xi Wang, **Libin Liu**, Bin Wang, and Baoquan Chen. 2021.

Camera Keyframing with Style and Control. ACM Transactions on Graphics, Vol. 40 (2021), No. 6, Article 209.

Peizhuo Li, Kfir Aberman, Rana Hanocka, **Libin Liu**, and Olga Sorkine-Hornung, Baoquan Chen. 2021. *Learning Skeletal Articulations With Neural Blend Shapes*. ACM Transactions on Graphics, Vol. 40 (2021), No. 4, Article 130.

Qingzhe Gao, Bin Wang, **Libin Liu**, and Baoquan Chen, 2021. *Unsupervised Co-part Segmentation through Assembly*. ICML 2021.

Libin Liu and Jessica Hodgins. 2018. *Learning Basketball Dribbling Skills Using Trajectory Optimization and Deep Reinforcement Learning*. ACM Transactions on Graphics, Vol. 37 (2018), No. 4, Article 142, 14 pages.

Libin Liu and Jessica Hodgins. 2017. *Learning to Schedule Control Fragments for Physics-Based Characters Using Deep Q-Learning*. ACM Transactions on Graphics, Vol. 36 (2017), No. 3, Article 29, 14 pages.

Libin Liu, Michiel van de Panne, and KangKang Yin. 2016. *Guided Learning of Control Graphs for Physics-based Characters*. ACM Transactions on Graphics, Vol. 35 (2016), No. 3, Article 29, 14 pages.

Kai Ding, **Libin Liu**, Michiel van de Panne, KangKang Yin. 2015. *Learning Reduced-Order Feedback Policies for Motion Skills*. Proc. ACM SIGGRAPH / Eurographics Symposium on Computer Animation 2015 **(SCA Best Paper Award)**

Bin Wang, Longhua Wu, KangKang Yin, Uri Ascher, **Libin Liu**, Hui Huang. 2015. *Deformation Capture and Modeling of Soft Objects.* ACM Transactions on Graphics, Vol 34, Issue 4, Article 94 (Proceedings of ACM SIGGRAPH 2015)

Libin Liu, KangKang Yin, and Baining Guo. 2014. *Improving Sampling-based Motion Control*. Computer Graphics Forum, Vol. 34 (2015), No. 2, (Proceedings of Eurographics 2015), 9 pages.

Libin Liu, KangKang Yin, Bin Wang, and Baining Guo. 2013. *Simulation and Control of Skeleton-driven Soft Body Characters*. ACM Transactions on Graphics, Vol. 32, No. 6, (Proceedings of ACM SIGGRAPH Asia 2013), Article 215, 8 pages.

Libin Liu, KangKang Yin, Michiel van de Panne, and Baining Guo. 2012. *Terrain runner: control, parameterization, composition, and planning for highly dynamic motions*. ACM Transactions on Graphics, Vol. 31, No. 6, (Proceedings of ACM SIGGRAPH Asia 2012), Article 154, 9 pages.

Libin Liu, KangKang Yin, Michiel van de Panne, Tianjia Shao, and Weiwei Xu. 2010. *Sampling-based contact-rich motion control*. ACM Transactions on Graphics, Vol. 29, No. 4, (Proceedings of ACM SIGGRAPH 2010), Article 128, 10 pages.