Stanford



C. Karen Liu

Professor of Computer Science

Bio

BIO

C. Karen Liu is a professor in the Computer Science Department at Stanford University. Prior to joining Stanford, Liu was a faculty member at the School of Interactive Computing at Georgia Tech. She received her Ph.D. degree in Computer Science from the University of Washington. Liu's research interests are in computer graphics and robotics, including physics-based animation, character animation, optimal control, reinforcement learning, and computational biomechanics. She developed computational approaches to modeling realistic and natural human movements, learning complex control policies for humanoids and assistive robots, and advancing fundamental numerical simulation and optimal control algorithms. The algorithms and software developed in her lab have fostered interdisciplinary collaboration with researchers in robotics, computer graphics, mechanical engineering, biomechanics, neuroscience, and biology. Liu received a National Science Foundation CAREER Award, an Alfred P. Sloan Fellowship, and was named Young Innovators Under 35 by Technology Review. In 2012, Liu received the ACM SIGGRAPH Significant New Researcher Award for her contribution in the field of computer graphics.

ACADEMIC APPOINTMENTS

- Professor, Computer Science
- Member, Bio-X
- Faculty Affiliate, Institute for Human-Centered Artificial Intelligence (HAI)
- Member, Wu Tsai Human Performance Alliance

HONORS AND AWARDS

- University of Washington Allen School Alumni Impact Award, University of Washington (2024)
- ACM SIGGRAPH Academy, ACM (2021)
- SIGGRAPH Significant New Research Award, ACM (2012)
- Alfred P. Sloan Research Fellowship, Alfred P. Sloan Foundation (2010)
- Young Innovators Under 35, MIT Technology Review (2007)
- CAREER Award, National Science Foundation (2007)

PROFESSIONAL EDUCATION

- BS, National Taiwan University , Computer Science (1999)
- MS, University of Washington , Computer Science (2001)
- PhD, University of Washington , Computer Science (2005)

LINKS

- https://cs.stanford.edu/~karenliu: https://cs.stanford.edu/~karenliu

Teaching

COURSES

2025-26

- A Hands-On Introduction to Building AI-Enabled Robots: CS 123 (Aut)
- Fundamentals of Computer Graphics: Animation and Simulation: CS 248B (Aut)

2024-25

- A Hands-On Introduction to Building AI-Enabled Robots: CS 123 (Aut, Spr)
- Fundamentals of Computer Graphics: Animation and Simulation: CS 248B (Aut)

2023-24

- A Hands-On Introduction to Building AI-Enabled Robots: CS 123 (Aut)
- Computer Graphics in the Era of AI: CS 348I (Win)
- Fundamentals of Computer Graphics: Animation and Simulation: CS 248B (Aut)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Sydney Covitz, Sarah Jobalia, Six Skov, Mandi Zhao

Postdoctoral Faculty Sponsor

Sun Min Lee, Guy Tevet

Orals Evaluator

Sarah Jobalia

Doctoral Dissertation Advisor (AC)

Tyler Lum, Keenon Werling

Master's Program Advisor

Jaden Clark, Bill Han, Matthew Hayes, Ryan He, Alexia Huang, Lisa Ing, Rohan Jagannathan, Ishan Khare, Edward Lee, Emma Sun, Karthik Vetrivel

Doctoral Dissertation Co-Advisor (AC)

Yanjie Ze

Doctoral (Program)

Sirui Chen, Sarthak Kamat, Tyler Lum, Michael Piseno, Takara Truong, Jonathan Tseng, Ruocheng Wang, Keenon Werling

Publications

PUBLICATIONS

- **GaitDynamics: a generative foundation model for analyzing human walking and running.** *Nature biomedical engineering*
  Tan, T., Van Wouwe, T., Werling, K. F., Liu, C. K., Delp, S. L., Hicks, J. L., Chaudhari, A. S.
  2026
- **Learning to Ball: Composing Policies for Long-Horizon Basketball Moves** *ACM TRANSACTIONS ON GRAPHICS*
  Xu, P., Wu, Z., Wang, R., Sarukkai, V., Fatahalian, K., Karamouzas, I., Zordan, V., Liu, C.

2025; 44 (6)

- **AddBiomechanics Dataset: Capturing the Physics of Human Motion at Scale.** *Computer vision - ECCV ... : ... European Conference on Computer Vision : proceedings. European Conference on Computer Vision*
  Werling, K., Kaneda, J., Tan, T., Agarwal, R., Skov, S., Van Wouwe, T., Uhlrich, S., Bianco, N., Ong, C., Falisse, A., Sapkota, S., Chandra, A., Carter, et al
  2025; 15146: 490-508

- **Flying Vines: Design, Modeling, and Control of a Soft Aerial Robotic Arm** *IEEE ROBOTICS AND AUTOMATION LETTERS*
  Jitosho, R., Winston, C. E., Yang, S., Li, J., Ahlquist, M., Woehrle, N., Liu, C., Okamura, A. M.
  2025; 10 (10): 10514-10521

- **Detecting artificially impaired balance in human locomotion: metrics, perturbation effects and detection thresholds.** *The Journal of experimental biology*
  Wu, J., Raitor, M., Tan, G. R., Staudenmayer, K. L., Delp, S. L., Liu, C. K., Collins, S. H.
  2025; 228 (10)

- **Generative Motion Infilling from Imprecisely Timed Keyframes** *COMPUTER GRAPHICS FORUM*
  Goel, P., Zhang, H., Liu, C. K., Fatahalian, K.
  2025

- **GaitDynamics: A Generative Foundation Model for Analyzing Human Walking and Running.** *Research square*
  Tan, T., Van Wouwe, T., Werling, K. F., Liu, C. K., Delp, S. L., Hicks, J. L., Chaudhari, A. S.
  2025

- **Nymeria: A Massive Collection of Multimodal Egocentric Daily Motion in the Wild**
  Ma, L., Ye, Y., Hong, F., Guzov, V., Jiang, Y., Postyeni, R., Pesqueira, L., Gamino, A., Baiyya, V., Kim, H., Bailey, K., Fosas, D. S., Liu, et al
  edited by Leonardis, A., Ricci, E., Roth, S., Russakovsky, O., Sattler, T., Varol, G.
  SPRINGER INTERNATIONAL PUBLISHING AG.2025: 445-465

- **Chain-of-Modality: Learning Manipulation Programs from Multimodal Human Videos with Vision-Language-Models**
  Wang, C., Xia, F., Yu, W., Zhang, T., Zhang, R., Liu, C., Li Fei-Fei, Tan, J., Liang, J.
  edited by Ott, C.
  IEEE.2025: 6527-6535

- **ARCap: Collecting High-quality Human Demonstrations for Robot Learning with Augmented Reality Feedback**
  Chen, S., Wang, C., Nguyen, K., Li Fei-Fei, Liu, C.
  edited by Ott, C.
  IEEE.2025: 8291-8298

- **LookOut: Real-World Humanoid Egocentric Navigation**
  Pan, B., Harley, A., Liu, C., Guibas, L.
  2025

- **Human-Object Interaction from Human-Level Instructions**
  Wu, Z., Li, J., Xu, P., Liu, C.
  2025

- **PGC: Physics-Based Gaussian Cloth from a Single Pose**
  Guo, M., Chiang, M., Santesteban, I., Sarafianos, N., Chen, H., Halimi, O., Bozic, A., Saito, S., Wu, J., Liu, C., Stuyck, T., Larionov, E., IEEE COMPUTER SOC
  IEEE COMPUTER SOC.2025: 21215-21225

- **Generating Detailed Character Motion from Blocking Poses**
  Goel, P., Tevet, G., Liu, C., Fatahalian, K.
  2025

- **Robot Trains Robot: Automatic Real-World Policy Adaptation and Learning for Humanoids**
  Hu, K., Shi, H., He, Y., Wang, W., Liu, C.
  2025

- **Crossing the Human-Robot Embodiment Gap with Sim-to-Real RL using One Human Demonstration**
  Lum, T., Lee, O., Liu, C., Bohg, J.
  2025
- **ToddlerBot: Open-Source ML-Compatible Humanoid Platform for Loco-Manipulation**
  Shi, H., Wang, W., Song, S., Liu, C.
  2025
- **HEAD: Hand-Eye Autonomous Delivery: Learning Humanoid Navigation, Locomotion and Reaching**
  Chen, S., Ye, Y., Cao, Z., Lew, J., Xu, P., Liu, C.
  2025
- **TWIST: Teleoperated Whole-Body Imitation System**
  Ze, Y., Chen, Z., Araujo, J., Cao, Z., Peng, X., Wu, J., Liu, C.
  2025
- **Lifting Motion to the 3D World via 2D Diffusion**
  Li, J., Liu, C., Wu, J., IEEE COMPUTER SOC
  IEEE COMPUTER SOC.2025: 17518-17528
- **AddBiomechanics Dataset: Capturing the Physics of Human Motion at Scale**
  Werling, K., Kaneda, J., Tan, T., Agarwal, R., Skov, S., Van Wouwe, T., Uhlrich, S., Bianco, N., Ong, C., Falisse, A., Sapkota, S., Chandra, A., Carter, et al
  edited by Leonardis, A., Ricci, E., Roth, S., Russakovsky, O., Sattler, T., Varol, G.
  SPRINGER INTERNATIONAL PUBLISHING AG.2025: 490-508
- **Creating a 3D Mesh in A-pose from a Single Image for Character Rigging** *COMPUTER GRAPHICS FORUM*
  Lee, S., Liu, C.
  2024
- **State of the Art on Diffusion Models for Visual Computing** *COMPUTER GRAPHICS FORUM*
  Po, R., Yifan, W., Golyanik, V., Aberman, K., Barron, J. T., Bermano, A., Chan, E., Dekel, T., Holynski, A., Kanazawa, A., Liu, C. K., Liu, L., Mildenhall, et al
  2024
- **A simulation framework to determine optimal strength training and musculoskeletal geometry for sprinting and distance running.** *PLoS computational biology*
  Van Wouwe, T., Hicks, J., Delp, S., Liu, K. C.
  2024; 20 (2): e1011410
- **Lower-Limb Exoskeletons Appeal to Both Clinicians and Older Adults, Especially for Fall Prevention and Joint Pain Reduction.** *IEEE transactions on neural systems and rehabilitation engineering : a publication of the IEEE Engineering in Medicine and Biology Society*
  Raitor, M., Ruggles, S. W., Delp, S. L., Liu, C. K., Collins, S. H.
  2024; 32: 1577-1585
- **PDP: Physics-Based Character Animation via Diffusion Policy**
  Truong, T., Piseno, M., Xie, Z., Liu, K.
  edited by Spencer, S. N.
  ASSOC COMPUTING MACHINERY.2024
- **Object-Centric Dexterous Manipulation from Human Motion Data**
  Chen, Y., Wang, C., Yang, Y., Liu, K.
  edited by Kroemer, O., Agrawal, P., Burgard, W.
  JMLR-JOURNAL MACHINE LEARNING RESEARCH.2024
- **Nymeria: A massive collection of multimodal egocentric daily motion in the wild**
  Ma, L., Liu, C., Newcombe, R.
  2024
- **AddBiomechanics Dataset: Capturing the Physics of Human Motion at Scale**

Werling, K., Kaneda, J., Liu, C.
2024

- **DiffusionPoser: Real-time Human Motion Reconstruction From Arbitrary Sparse Sensors Using Autoregressive Diffusion**
  Van Wouwe, T., Lee, S., Falisse, A., Delp, S., Liu, C., IEEE COMPUTER SOC
  IEEE COMPUTER SOC.2024: 2513-2523
- **Dexcap: Scalable and portable mocap data collection system for dexterous manipulation**
  Wang, C., Shi, H., Wang, W., Zhang, R., Fei-Fei, L., Liu, C.
  2024
- **Behavior-1k: A human-centered, embodied ai benchmark with 1,000 everyday activities and realistic simulation**
  Li, C., Liu, C., Fei-Fei, L.
  2024
- **SpringGrasp: Synthesizing Compliant, Dexterous Grasps under Shape Uncertainty**
  Chen, S., Bohg, J., Liu, C.
  2024
- **Iterative Motion Editing with Natural Language**
  Goel, P., Wang, K., Liu, C., Fatahalian, K., Spencer, S.
  ASSOC COMPUTING MACHINERY.2024
- **Controllable human-object interaction synthesis**
  Li, J., Clegg, A., Mottaghi, ., Wu, J., Puig, X., Liu, C.
  2024
- **One-shot transfer of long-horizon extrinsic manipulation through contact retargeting**
  Wu, A., Wang, R., Chen, S., Eppner, C., Liu, C.
  2024
- **Object-centric dexterous manipulation from human motion data**
  Chen, Y., Wang, C., Yang, Y., Liu, C.
  2024
- **Motion Diffusion-Guided 3D Global HMR from a Dynamic Camera** *CVPR*
  Heo, J., Wang, ., Liu, C., Yeung-Levy, S.
  2024
- **PDP: Physics-based character animation via diffusion policy** *ACM SIGGRAPH Asia*
  Truong, T., Piseno, M., Xie, Z., Liu, C.
  2024
- **FürElise: Capturing and Physically Synthesizing Hand Motion of Piano Performance** *SIGGRAPH Asia*
  Wang, R., Xu, P., Shi, H., Schumann, E., Liu, C.
  2024
- **Object Motion Guided Human Motion Synthesis** *ACM TRANSACTIONS ON GRAPHICS*
  Li, J., Wu, J., Liu, C.
  2023; 42 (6)
- **From Skin to Skeleton: Towards Biomechanically Accurate 3D Digital Humans** *ACM TRANSACTIONS ON GRAPHICS*
  Keller, M., Werling, K., Shin, S., Delp, S., Pujades, S., Liu, C., Black, M. J.
  2023; 42 (6)
- **AddBiomechanics: Automating model scaling, inverse kinematics, and inverse dynamics from human motion data through sequential optimization.** *PloS one*
  Werling, K., Bianco, N. A., Raitor, M., Stingel, J., Hicks, J. L., Collins, S. H., Delp, S. L., Liu, C. K.
  2023; 18 (11): e0295152

- **AddBiomechanics: Automating model scaling, inverse kinematics, and inverse dynamics from human motion data through sequential optimization.** *bioRxiv : the preprint server for biology*
  Werling, K., Bianco, N. A., Raitor, M., Stingel, J., Hicks, J. L., Collins, S. H., Delp, S. L., Liu, C. K.
  2023
- **Simulating the effect of ankle plantarflexion and inversion-eversion exoskeleton torques on center of mass kinematics during walking.** *PLoS computational biology*
  Bianco, N. A., Collins, S. H., Liu, K., Delp, S. L.
  2023; 19 (8): e1010712
- **Hierarchical Planning and Control for Box Loco-Manipulation** *PROCEEDINGS OF THE ACM ON COMPUTER GRAPHICS AND INTERACTIVE TECHNIQUES*
  Xie, Z., Tseng, J., Starke, S., De Panne, M., Liu, C.
  2023; 6 (3)
- **Anatomically Detailed Simulation of Human Torso** *ACM TRANSACTIONS ON GRAPHICS*
  Lee, S., Jiang, Y., Liu, C.
  2023; 42 (4)
- **Trajectory and Sway Prediction Towards Fall Prevention.** *IEEE International Conference on Robotics and Automation : ICRA : [proceedings]. IEEE International Conference on Robotics and Automation*
  Wang, W., Raitor, M., Collins, S., Liu, C. K., Kennedy, M.
  2023; 2023: 10483-10489
- **On Designing a Learning Robot: Improving Morphology for Enhanced Task Performance and Learning**
  Sorokin, M., Fu, C., Tan, J., Liu, K. C., Bai, Y., Lu, W., Ha, S., Khansari, M., IEEE
  IEEE.2023: 487-494
- **Sequential Dexterity: Chaining Dexterous Policies for Long-Horizon Manipulation** *Conference on Robot Learning (CoRL)*
  Chen, Y., Wang, C., Li, F., Liu, C.
  2023
- **Benchmarking Rigid Body Contact Models**
  Guo, M., Jiang, Y., Spielberg, A., Wu, J., Liu, K.
  edited by Pappas, G. J., Matni, N., Morari, M.
  JMLR-JOURNAL MACHINE LEARNING RESEARCH.2023
- **Sequential Dexterity: Chaining Dexterous Policies for Long-Horizon Manipulation**
  Chen, Y., Wang, C., Li Fei-Fei, Liu, K.
  edited by Tan, J., Toussaint, M., Darvish, K.
  JMLR-JOURNAL MACHINE LEARNING RESEARCH.2023
- **Reinforcement Learning Enables Real-Time Planning and Control of Agile Maneuvers for Soft Robot Arms** *Conference on Robot Learning (CoRL)*
  Jitosho, R., Lum, T., Okamura, A., Liu, C.
  2023
- **DROP: Dynamics Responses from Human Motion Prior and Projective Dynamics** *ACM SIGGRAPH*
  Jiang, Y., Won, J., Ye, Y., Liu, C.
  2023
- **Synthesizing Dexterous Nonprehensile Pregrasp for Ungraspable Objects**
  Chen, S., Wu, A., Liu, C.
  edited by Spencer, S. N.
  ASSOC COMPUTING MACHINERY.2023
- **EDGE: Editable Dance Generation From Music**
  Tseng, J., Castellon, R., Liu, C., IEEE
  IEEE COMPUTER SOC.2023: 448-458

- **NeMo: 3D Neural Motion Fields from Multiple Video Instances of the Same Action**
  Wang, K., Weng, Z., Xenochristou, M., Araujo, J., Gu, J., Liu, C., Yeung, S., IEEE
  IEEE COMPUTER SOC.2023: 22129-22138
- **Ego-Body Pose Estimation via Ego-Head Pose Estimation**
  Li, J., Liu, C., Wu, J., IEEE
  IEEE COMPUTER SOC.2023: 17142-17151
- **CIRCLE: Capture In Rich Contextual Environments**
  Araujo, J., Li, J., Vetrivel, K., Agarwal, R., Wu, J., Gopinath, D., Clegg, A., Liu, C., IEEE
  IEEE COMPUTER SOC.2023: 21211-21221
- **Sequential Dexterity: Chaining Dexterous Policies for Long-Horizon Manipulation** *Conference on Robot Learning (CoRL)*
  Chen, Y., Wang, C., Li, F., Liu, C.
  2023
- **Characterizing Multidimensional Capacitive Servoing for Physical Human-Robot Interaction** *IEEE TRANSACTIONS ON ROBOTICS*
  Erickson, Z., Clever, H. M., Gangaram, V., Xing, E., Turk, G., Liu, C., Kemp, C. C.
  2022
- **A Survey on Reinforcement Learning Methods in Character Animation**
  Kwiatkowski, A., Alvarado, E., Kalogeiton, V., Liu, C., Pettre, J., van de Panne, M., Cani, M.
  WILEY.2022: 613-639
- **Learning to Navigate Sidewalks in Outdoor Environments** *IEEE ROBOTICS AND AUTOMATION LETTERS*
  Sorokin, M., Tan, J., Liu, C., Ha, S.
  2022; 7 (2): 3906-3913
- **DCL: Differential Contrastive Learning for Geometry-Aware Depth Synthesis** *IEEE ROBOTICS AND AUTOMATION LETTERS*
  Shen, Y., Yang, Y., Zheng, Y., Liu, C., Guibas, L. J.
  2022; 7 (2): 4845-4852
- **Task-Specific Design Optimization and Fabrication for Inflated-Beam Soft Robots with Growable Discrete Joints** *IEEE International Conference on Robotics and Automation (ICRA)*
  Exachos, I., Wang, K., Do, B., Stroppa, F., Coad, M., Okamura, A., Liu, C.
  2022
- **GIMO: Gaze-Informed Human Motion Prediction in Context**
  Zheng, Y., Yang, Y., Mo, K., Li, J., Yu, T., Liu, Y., Liu, C., Guibas, L. J.
  edited by Avidan, S., Brostow, G., Cisse, M., Farinella, G. M., Hassner, T.
  SPRINGER INTERNATIONAL PUBLISHING AG.2022: 676-694
- **ADeLA: Automatic Dense Labeling with Attention for Viewpoint Adaptation in Semantic Segmentation** *Conference on Computer Vision and Pattern Recognition (CVPR)*
  Yang, Y., Ren, H., Wang, H., Shen, B., Fan, Q., Zheng, Y., Liu, C., Guibas, L.
  2022
- **Data-Augmented Contact Model for Rigid Body Simulation** *Learning for Dynamics & Control Conference (L4DC)*
  Jian, Y., Sun, J., Liu, C.
  2022
- **Learning Diverse and Physically Feasible Dexterous Grasps with Generative Model and Bilevel Optimization** *Conference on Robot Learning (CoRL)*
  Wu, A., Guo, M., Liu, C.
  2022
- **Transformer Inertial Poser: Real-time Human Motion Reconstruction from Sparse IMUs with Simultaneous Terrain Generation** *Proceedings of SIGGRAPH Asia*
  Jiang, Y., Ye, Y., Gopinath, D., Won, J., Winkler, A., Liu, C.
  2022

- **BEHAVIOR-1K: A Benchmark for Embodied AI with 1,000 Everyday Activities and Realistic Simulation** *Conference on Robot Learning (CoRL)*
  Li, C.
  2022
- **Real-time Model Predictive Control and System Identification Using Differentiable Physics Simulation** *IEEE Robotics and Automation Letters,*
  Chen, S., Werling, K., Wu, A., Liu, C.
  2022
- **Scene Synthesis from Human Motion** *Proceedings of ACM SIGGRAPH Asia*
  Ye, S., Wang, Y., Li, J., Park, D., Liu, C., Xu, H., Wu, J.
  2022
- **Learning Human Search Behavior from Egocentric Visual Inputs** *COMPUTER GRAPHICS FORUM*
  Sorokin, M., Yu, W., Ha, S., Liu, C.
  2021; 40 (2): 389-398
- **The Role of Physics-Based Simulators in Robotics** *ANNUAL REVIEW OF CONTROL, ROBOTICS, AND AUTONOMOUS SYSTEMS, VOL 4, 2021*
  Liu, C., Negrut, D.
  edited by Leonard, N. E.
  2021; 4: 35-58
- **Protective Policy Transfer**
  Yu, W., Turk, G., Liu, C. K.
  2021
- **SimGAN: Hybrid Simulator Identification for Domain Adaptation via Adversarial Reinforcement Learning**
  Jiang, Y., Zhang, T., Ho, D., Bai, Y., Liu, C. K., Levine, S., Tan, J.
  2021
- **Policy Transfer via Kinematic Domain Randomization and Adaptation**
  Exarchos, I., Jiang, Y., Yu, W., Liu, C. K.
  2021
- **Fast and Feature-Complete Differentiable Physics for Articulated Rigid Bodies with Contact**
  Werling, K., Omens, D., Lee, J., Exarchos, I., Liu, C. K.
  2021
- **Error-Aware Policy Learning: Zero-Shot Generalization in Partially Observable Dynamic Environments**
  Kumar, V. C., Ha, S., Liu, C. K.
  2021
- **Learning Task-Agnostic Action Spaces for Movement Optimization** *IEEE Transactions on Computer Graphics and Visualization*
  Babadi, A., van de Panne, M., Liu, C. K., Hämäläinen, P.
  2021
- **COCOI: Contact-aware Online Context Inference for Generalizable Non-planar Pushing**
  Xu, Z., Yu, W., Herzog, A., Lu, W., Fu, C., Tomizuka, M., Bai, Y., Liu, C. K., Ho, D.
  2021
- **iGibson 2.0: Object-Centric Simulation for Robot Learning of Everyday Household Tasks**
  Li, C., Xia, F., Martin-Martin, R., Lingelbach, M., Srivastava, S., Shen, B., Vainio, K., Gokmen, C., Dharan, G., Jain, T., Kurenkov, A., Liu, C. K., Gweon, et al
  2021
- **Co-GAIL Learning Diverse Strategies for Human-Robot Collaboration**
  Wang, C., Pérez-D'Arpino, C., Xu, D., Fei-Fei, L., Liu, C. K., Savarese, S.
  2021

- **BEHAVIOR: Benchmark for Everyday Household Activities in Virtual, Interactive, and Ecological Environments**
  Srivastava, S., Li, C., Lingelbach, M., Martin-Martin, R., Xia, F., Vainio, K., Lian, Z., Gokmen, C., Buch, S., Liu, C. K., Savarese, S., Gweon, H., Wu, et al
  2021
- **DASH: Modularized Human Manipulation Simulation with Vision and Language for Embodied AI**
  Jiang, Y., Guo, M., Li, J., Exarchos, I., Wu, J., Liu, C. K.
  2021
- **Learning to Manipulate Amorphous Materials** *ACM TRANSACTIONS ON GRAPHICS*
  Zhang, Y., Yu, W., Liu, C., Kemp, C., Turk, G.
  2020; 39 (6)
- **Learning to Collaborate From Simulation for Robot-Assisted Dressing** *IEEE ROBOTICS AND AUTOMATION LETTERS*
  Clegg, A., Erickson, Z., Grady, P., Turk, G., Kemp, C. C., Liu, C.
  2020; 5 (2): 2746–53
- **Learning a Control Policy for Fall Prevention on an Assistive Walking Device**
  Kumar, V. C., Ha, S., Sawicki, G., Liu, C. K.
  2020
- **Assistive Gym: A Physics Simulation Framework for Assistive Robotics**
  Erickson, Z., Gangaram, V., Kapusta, A., Liu, C. K., Kemp, C. C.
  2020
- **Visualizing Movement Control Optimization Landscapes.** *IEEE transactions on visualization and computer graphics*
  Hamalainen, P. n., Toikka, J. n., Babadi, A. n., Liu, K. n.
  2020; PP
- **Estimating Mass Distribution of Articulated Objects using Non-prehensile Manipulation**
  Kumar, K. N., Essa, I., Ha, S., Liu, C. K.
  2020
- **Bodies at Rest: 3D Human Pose and Shape Estimation from a Pressure Image using Synthetic Data**
  Clever, H. M., Erickson, Z., Kapusta, A., Turk, G., Liu, C., Kemp, C. C., IEEE
  IEEE.2020: 6214–23
- **Learning a Control Policy for Fall Prevention on an Assistive Walking Device**
  Kumar, V., Ha, S., Sawicki, G., Liu, C. K.
  2020
- **Personalized collaborative plans for robot-assisted dressing via optimization and simulation** *AUTONOMOUS ROBOTS*
  Kapusta, A., Erickson, Z., Clever, H. M., Yu, W., Liu, C., Turk, G., Kemp, C. C.
  2019; 43 (8): 2183–2207
- **Synthesis of Biologically Realistic Human Motion Using Joint Torque Actuation** *ACM TRANSACTIONS ON GRAPHICS*
  Jiang, Y., Van Wouwe, T., De Groote, F., Liu, C.
  2019; 38 (4)
- **Sim-to-Real Transfer for Biped Locomotion** *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*
  Yu, W., Kumar, V. C., Turk, G., Liu, C.
  2019
- **Policy Transfer with Strategy Optimization**
  Yu, W., Liu, C., Turk, G.
  2019
- **Multidimensional Capacitive Sensing for Robot-Assisted Dressing and Bathing**
  Erickson, Z., Clever, H. M., Gangaram, V., Turk, G., Liu, C., Kemp, C. C.
  2019