

Jenny Han Lin

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ACADEMIC EMPLOYMENT	University of Utah July 2025 - Current <i>Assistant Professor (Tenure-track)</i> Kahlert School of Computing University of Utah August 2024 - June 2025 <i>Postdoctoral Researcher</i> Advisor: Prof. Cem Yuksel (University of Utah)
EDUCATION	Carnegie Mellon University (CMU) September 2017 - August 2024 Ph.D. in Computer Science Thesis: Formalizing Object Equivalence in Machine Knitting Massachusetts Institute of Technology (MIT) September 2011 - June 2015 Bachelors of Engineering, Class of 2015. – Major: 6-7: Computer Science and Molecular Biology. – GPA: 4.7 / 5.0.
ADVISED STUDENTS	* Ziheng Liu Sept '25 - Current <i>PhD student (Coadvised w/ Prof. Cem Yuksel)</i> * Colin Galbraith Sept '25 - Current <i>PhD student</i> * Andi Moss Feb '26 - Current <i>Undergraduate student</i>
PUBLICATIONS	Y. Hwang, J. Lin , J. Hsu, B. Mastripolito, J. McCann, and C. Yuksel. <i>Neighbor-Aware Data-Driven Relaxation of Stitch Mesh Models for Knits.</i> In ACM Transactions on Graphics (SIGGRAPH Asia '25). N. Hurtig, J. Lin , T. Price, A. Schulz, J. McCann, and G. Bernstein. <i>Polynomial-Time Program Equivalence for Machine Knitting.</i> In ACM on Programming Languages (ICFP '25). J. Lin , Y. Ikarashi, G. Bernstein, and J. McCann. <i>UFO Instruction Graphs are Machine Knittable.</i> In ACM Transactions on Graphics (SIGGRAPH Asia '24). J. Lin , V. Narayanan, Y. Ikarashi, J. Ragan-Kelley, G. Bernstein, and J. McCann. <i>Semantics and Scheduling for Machine Knitting Compilers.</i> In ACM Transactions on Graphics (SIGGRAPH '23). J. Lin , and J. McCann. <i>An Artin Braid Group Representation of Knitting Machine State with Applications to Validation and Optimization of Fabrication Plans.</i> In 2021 IEEE International Conference on Robotics and Automation (ICRA '21). Best Conference Paper Finalist. M. Guo, J. Lin , V. Narayanan, and J. McCann. <i>Representing Crochet with Stitch Meshes.</i> In Proceedings of the 5th Annual ACM Symposium on Computational Fabrication (SCF '20). J. Lin , V. Narayanan, and J. McCann. <i>Efficient Transfer Planning for Flat Knitting.</i> In Proceedings of the 3rd Annual ACM Symposium on Computational Fabrication (SCF '18). C. Jiang*, Y. Zhu*, S. Qi*, S. Huang*, J. Lin , X. Guo, L.-F. Yu, D. Terzopoulos, and S.-C. Zhu. <i>Configurable 3D Scene Synthesis and 2D Image Rendering with Per-pixel Ground Truth Using Stochastic Grammars.</i> In International Journal of Computer Vision (IJCV '18).

J. Lin*, J. Kubricht*, Y. Zhu*, H. Lu, and S.-C. Zhu.
Visuomotor Adaptation and Sensory Recalibration in Reversed Hand Movement Task.
39th Annual Meeting of the Cognitive Science Society (CogSci '17).

J. Lin*, X. Guo*, J. Shao*, C. Jiang, Y. Zhu, and S.-C. Zhu.
A Virtual Reality Platform for Dynamic Human-Scene Interaction.
SIGGRAPH Asia Workshop on Virtual Reality Meets Physical Reality, 2016.

MT. Gravina, **J. Lin**, and S.S. Levine.
Lane-by-lane sequencing using Illumina's Genome Analyzer II.
Biotechniques, 2013. 54(5):265-9.

N. Danilova, A. Kumagi, and **J. Lin**.
p53 upregulation is a frequent response to deficiency of cell-essential genes.
PLoS One, 2010. 5(12):e15938.

ABSTRACTS /
POSTERS

J. Lin and J. McCann.
Leveraging Temporal Constraints for Simplified Knit Representation.
American Physical Society March Meeting, 2021.

J. Lin and J. McCann.
Knitting Machine State Representation Using the Artin Braid Group.
American Physical Society March Meeting, 2020.

M. Guo, **J. Lin**, V. Narayanan, and J. McCann.
Representing Crochet with Stitch Meshes.
ACM SIGGRAPH Posters Session, 2020.

Z. Banks, V. L. Butty, **J. Lin**, and S. S. Levine.
Which RNA-Seq processing algorithm should I pick?
A comparison of RNA-Seq pipelines based on experimental parameters.
The 14th annual Advances in Genome Biology and Technology, 2013.

TEACHING
EXPERIENCE

- * **Instructor for Graphics Seminar (UoU)** Spring '26
– Graduate seminar where students write reports on talks given by graphics researchers.
- * **Co-Instructor for Interactive Computer Graphics (UoU)** Spring '26
– Undergraduate/Graduate project-based course on real-time graphics techniques.
- * **Co-Instructor for Introduction to Computer Graphics (UoU)** Fall '25
– Undergraduate elective course on basic graphics concepts through WebGL-based exercises
- * **Guest Lecturer for Computational Design and Fabrication Course (UW)** Fall '23
– Taught foundations of machine knitting programming in an undergraduate course on computational fabrication
- * **Guest Lecturer for E-Textiles Course (UW)** Fall '21
– Taught basics of transfer planning in machine knitting programs
- * **Guest Lecturer for Algorithmic Textile Design (CMU 15-463)** Spring '19 & Spring '21
– Taught basics of transfer planning in machine knitting programs
- * **TA for Computational Photography (CMU 15-463)** Fall '20 & Fall '21
– Advanced undergraduate/introductory graduate course on computational photography.
– In addition to office hours and grading, converted existing assignments from MATLAB to Python.

INVITED TALKS

- * **Computational Knitting**
– Symposium on Geometry Processing Graduate School Jun '25
Co-taught course with Benjamin Jones and Edward Chien Bilbao, ES

- ★ **Semantics, Knot Theory, and Intuition: Defining Meaning for Machine Knitting Programs**
 - Denison University Technical Communications Course Oct '24
Granville, OH
 - University of Victoria Computer Science Colloquium Feb '24
Victoria, BC
 - University of Notre Dame Computer Science Seminar Feb '24
South Bend, IN
 - ★ **Formal Equivalence and Fuzzy Intuition for Object Equivalence**
 - Symposium on Computational Fabrication Sketch Talk July '24
Aarhus, DK
 - ★ **Program Equivalence for Machine Knitting Via the Power of Fenced Tangles**
 - Massachusetts Institute of Technology Graphics Seminar Oct '23
Cambridge, MA
 - Boston University Graphics Seminar Oct '23
Victoria, BC
 - Cornell University Department of Human Centered Design Lecture Aug '23
Ithaca, NY
 - ★ **Topological Insights for Representing Machine Knit Objects**
 - University of Washington Computation Fabrication Seminar Oct '22
Seattle, WA
- DEPARTMENTAL SERVICE
- ★ **PhD Thesis Committee Member** Nov '25 - Current
 - Elie Diaz, University of Utah
 - ★ **Liason for Support Women in Computing Groups** Jul '25 - Current
 - Faculty advisor for undergraduate Women in Computing club and Grad-CS Women
 - ★ **Kahlert Impact Reward Review Panel** Mar '26
 - Reviewed 26 student applications for the Kahlert Impact Reward
 - ★ **Scholarship Review Committee** Mar '26
 - Reviewed ~ 30 University of Utah undergraduate applications for scholarship programs
 - ★ **Graduate Application Review Committee** Mar '26
 - Reviewed ~ 30 masters applications to the Kahlert School of Computing
 - ★ **Graduate Student Visit Day** Feb '26
 - Did the area presentation for Visual Computing
 - Spoke on the faculty panel for both the in person and virtual visit
 - ★ **UCBPC Industry Panel Speaker** Feb '26
 - Invited by the Utah Center for Broadening Participation in Computing
 - ★ **GradSAC Academia Panel** Nov '25
 - Invited speaker for panel about the academic job market
- EXTERNAL SERVICE
- ★ **SIGGRAPH 2026 Posters Jury** Apr '26 - May '26
 - Recruited external reviewers and served on review committee for SIGGRAPH 2026 Posters session
 - ★ **Graphics Area Chair for SCF** Feb '25 - Nov '25
 - Recruited reviewers and served on review committee for ACM Symposium on Computational Fabrication 2025
 - Chaired the “Comfy Things” session on fabrication of deformable objects
 - ★ **Reviewer**
 - Reviewed papers for Pacific Graphics, Computer-Aided Design, SIGGRAPH, SIGGRAPH Asia, ACM SCF, ACM UIST

OUTREACH	<ul style="list-style-type: none"> ★ TA for Knitout Office Hours Oct '18 - Jul '24 <ul style="list-style-type: none"> - Answer questions about knit programming at weekly sessions where the knitting machine is available for usage by the greater CMU community - Wrote initial tutorial knitout posts, available at the textiles lab website ★ SIGBOVIK Chair Sept '18 - Apr '22 <ul style="list-style-type: none"> - Committee member for an annual conference on comedic computer science “research” - Organized in-person ('19, '22) and remote ('20, '21) events with multiple speakers, developed website ('19), compiled proceedings ('21-'22), and recruited/directed other committee members ('20-'22), as well as many other tasks too comedic to list ★ Technights Instructor Jan '20 - Feb '20 <ul style="list-style-type: none"> - Instructor for a STEM outreach program for girls grade 6-8 - Developed lesson plan and group activity about the wallpaper symmetry groups
AWARDS AND SCHOLARSHIPS	<p>IEEE International Conference on Robotics and Automation Best Conference Paper 2021 <i>Finalist</i></p> <p>MIT iOS Game Competition, MIT 2014 <i>3rd place</i></p> <p>Donald A. King Summer Research Fellowship, University of California, Los Angeles 2013 <i>One of three recipients</i></p>
INDUSTRY POSITIONS AND INTERNSHIPS	<ul style="list-style-type: none"> ★ Amazon Summer '21 & Spring '22 New York, NY <i>Science Intern</i> <ul style="list-style-type: none"> - Mentors: Sunil Hadap and Alla Sheffer - Goal: developing a concrete evaluation metric for garment fit. - Worked with simulated garment geometry on SMPL body meshes to generate learnable metrics for evaluating garment fit. ★ UCLA Center for Vision, Cognition, Learning and Autonomy Aug '16 - Aug '17 Los Angeles, CA <i>Staff Research Associate</i> <ul style="list-style-type: none"> - Advisors: Prof. Song-Chun Zhu (UCLA) and Prof. Philippe Schyns (University of Glasgow) - Goal: to provide a unified framework for evaluating robotics, high-level computer vision tasks, and human cognition inside virtual environments using real-time physics-based simulations. - Developed various dynamic virtual scenes for testing agent performance in Unreal Engine 4. - Designed experimental setup for evaluating the difference in human performance between real-world and virtual environments. ★ 3BlackDot Jan '16 - June '16 Los Angeles, CA <i>Software Engineer</i> <ul style="list-style-type: none"> - Developed three minute Virtual Reality demo. - Added dedicated servers to existing video game Dead Realm. ★ Square Enix, Japan July '15 - November '15 Tokyo, JP <i>Software Engineer</i> <ul style="list-style-type: none"> - Goal: to explore the applications of Virtual Reality in video game production. - Developed two-player asymmetrical game which combined perspective tracking with Virtual Reality. ★ MIT Computer Science and Artificial Intelligence Laboratory June '14 - June '15 Cambridge, MA <i>Undergraduate Researcher</i> <ul style="list-style-type: none"> - Advisors: Dr. Yuchun Guo (MIT) and Prof. David Gifford (MIT) - Goal: to improve the spatial accuracy of protein-DNA binding site detection by incorporating information from paired-end sequencing tags - Modified existing sequencing data analysis method Genome Positioning System to use paired-end data. - Compared accuracy of new analysis method to several existing methods. ★ UCLA Semel Institute June '13 - Sept '13 Los Angeles, CA <i>Undergraduate Researcher</i> <ul style="list-style-type: none"> - Advisors: Profs. William Yang and Steve Horvath (UCLA)

- Goal: to determine genetic similarity between HD patients and disease mouse models as well identify gene sets with irregular expression
- Analyzed RNA expression in Huntingtons disease patients and corresponding mouse models.
- Presented findings at Huntington's Disease Society of America 2014 Convention.

★ **MIT BioMicro Center**

June '12 - Aug '13

Undergraduate Researcher

Cambridge, MA

- Advisors: Prof. Stuart Levine (MIT)
- Goal: to allow researchers to perform genome sequencing on partial flowcells, thus saving reagents on small experimental batches.
- Created pipeline to convert existing .json files with full flowcell sequencing instructions into partial flowcell instructions.
- Results and pipeline published in Biotechniques.

★ **UCLA Department of Molecular, Cell & Developmental Biology**

Sept '07- Mar '11

Research Intern

Los Angeles, CA

- Mentor: Dr. Nadia Danilova (UCLA)
- Goal: to determine the involvement of p53 in birth defects due to genetic mutations
- Performed PCR, Western blot analysis and zebrafish husbandry.