

Tica Lin, PhD

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Data Visualization · Human-AI Interaction · AR/VR · SportsXR · Sports Analytics

🏛️ EDUCATION

Harvard University	Cambridge, MA, USA
Ph.D. in Computer Science	2019 - 2024
Georgia Institute of Technology	Atlanta, GA, USA
M.S. in Digital Media	2015 - 2017
Best Project Award, Class of 2017	
National Taiwan University	Taipei, Taiwan
B.S. in Electrical Engineering	2010 - 2015
Osaka University	Osaka, Japan
Frontier Lab Exchange Student	2013 - 2014

📁 PROFESSIONAL EXPERIENCE

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|-------------------------------|--------------------|
| Dolby Laboratories | Atlanta, GA |
| <i>Sr. Research Scientist</i> | 2025 Feb - current |
- Conduct cutting-edge research in data visualization and machine learning, developing innovative techniques and applications to create interactive and immersive data-driven media experiences
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| Taiwan Institute of Sports Science, Ministry of Education | Remote |
| <i>Consultant</i> | 2024 Dec - current |
- Provide expert consultancy on designing data analytics frameworks and interactive tools to enhance performance insights and innovation for professional sports in Taiwan
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|-----------------------------|---------------------|
| Athleo.ai | Boston, MA |
| <i>Co-Founder & CEO</i> | 2023 Nov - 2024 Dec |
- Co-founded an AI-powered sports video technology venture focused on revolutionizing sports storytelling by enabling easy creation of personalized, engaging sports highlights for every sports enthusiast
 - Led a team of 7 and drove strategic vision and led the development of Athleo Creator with over 400 users within 3 months of beta launch
 - Selected as part of the D³ AI Lab for Startups cohort at Harvard Business School, receiving mentorship and resources to accelerate commercialization and impact in the global sports industry
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|--|----------------|
| Adobe | Cambridge, MA |
| <i>Applied Scientist Intern (Part-Time), Adobe Firefly</i> | 2024 Feb - May |
- Contributed to scientific evaluation of advanced Generative AI models with rigorous large-scale user studies design, supporting key insights for human-centered model development
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| Minnesota Timberwolves | |
| <i>UX Research & Design Consultant</i> | 2022 Sep - Nov |
- Spearheaded user research to improve the efficacy and UX of internal basketball analytics products

Visa*Sr. Data Visualization Designer / Engineer*

San Francisco, CA

2018 - 2019

- Designed data visualization and B2B data product prototypes to deliver data-driven business insights
- Led the design and development of the first in-house data visualization library in Visa Design System

Philadelphia 76ers*UX Developer- Analytics & Strategy*

Philadelphia, PA

2017 - 2018

- Designed internal data products to enhance basketball operations and strategy development, effectively delivering data-driven decisions to executives, coaches, and scouts through optimized data visualization and product design. Reported by *The Philadelphia Inquirer*

📖 RESEARCH EXPERIENCE

Harvard University*Postdoctoral Fellow*

Cambridge, MA

2024 June - Dec

- Led cutting-edge research projects in data visualization, human-AI interaction, and SportsXR, driving innovation in the broader field of HCI for enhanced data analysis and communication
- Developed the research field of situated analytics in sports and dynamic environments through mentoring students, hosting workshops, and initiating research collaboration

Graduate Research Assistant, Visual Computing Group

2019 Sep - 2024 May

- Investigated the confluence of data visualization and AR/VR, utilizing a human-centered approach that incorporates the design and execution of user studies with qualitative and quantitative research methods
- Developed novel visualization and interaction techniques with nascent XR platforms (e.g., Apple Vision Pro, HoloLens, Meta Quest) to enable effective information retrieval and visual analytics within dynamic environments
- Published 8 first-authored papers at top venues with Best Paper Awards at CHI, VIS, and PacificVis.

Media & Design Fellow, Derek Bok Center for Teaching and Learning

2021 Sep - 2022 May

- Supported innovative course development and advocate for data visualization through integrating new digital tools into curriculum, including interactive web-based and immersive applications in Unity

Adobe Research*Research Scientist Intern, Creative Technologies Lab*

Cambridge, MA

2022 May - Aug / 2023 Sep - Dec

- Conducted HCI research with GenAI model developers to address challenges in AI model evaluations and developed a collaborative visual analytic tool targeting failure analysis. Publication [P15]
- Collaborated with badminton Olympians to develop a VR badminton match video analytic platform leveraging state-of-the-art CV models and immersive visualizations. Publication [P13]

Apple*Research Intern, Vision Products Group*

Sunnyvale, CA

2023 May - Sep

- Collaborated with ML engineers and invented a novel analytic pipeline with immersive visualizations for 3D CVML model interpretation and diagnosis. Publication [P21]

Meta*Research Scientist Intern, Facebook Reality Labs*

Toronto, Canada (Remote)

2021 Jun - Sep

- Conducted human-AI interaction research to address input recognition problems in XR technologies with large-scale quantitative user studies. Publication [P10]

📖 PUBLICATIONS

- P25 Yiyang Wang , Chen Chen, **Tica Lin**, Vishnu Raj, Joshua Kimball, Alex Cabral, Josiah Hester. “CompanionCast: Toward Social Collaboration with Multi-Agent Systems in Shared Experiences.” *CHI Workshop on Human-Agent Collaboration, 2026 (CHI’26 Workshop)*.
- P24 Hayato Saiki, Chunggi Lee, Hikari Takahashi, **Tica Lin**, Hidetada Kishi, Kaori Tachibana, Yasuhiro Suzuki, Hanspeter Pfister, Kenji Suzuki. “BRIDGE: Borderless Reconfiguration for Inclusive and Diverse Gameplay Experience via Embodiment Transformation.” *ACM Conference on Human Factors in Computing Systems, 2026 (CHI’26)*.
🏆 **Best Paper Award**
- P23 Chunggi Lee, Hayato Saiki, **Tica Lin**, Eiji Ikeda, Kenji Suzuki, Chen Zhu-Tian, Hanspeter Pfister. “ViSTAR: Virtual Skill Training with Augmented Reality with 3D Avatars and LLM coaching agent.” *ACM Conference on Human Factors in Computing Systems, 2026 (CHI’26)*.
- P22 Chunggi Lee, Ut Gong, **Tica Lin**, Stefanie Zollmann, Scott A Epsley, Adam Petway, Hanspeter Pfister. “VAIR: Visual Analytics for Injury Risk Exploration in Sports.” *IEEE Visual Analytics in Healthcare (VAHC) Workshop, 2025 (VIS’25 Workshop)*.
- P21 **Tica Lin**, Jun Yuan, Kevin Miao, Tigran Katolikyan, Isaac Walker, Marco Cavallo. “Towards a Better Evaluation of 3D CVML Algorithms: Immersive Debugging of a Localization Model.” *Computer Graphics Forum, 2025 (Euro Vis’25)*
- P20 Jian-Jia Weng*, Calvin Ku*, Jo Chien Wang, Chih-Jen Cheng, **Tica Lin**, Yu-An Su, Tsung-Hsun Tsai, You-Yi Lin, Lun-Wei Ku, Hung-Kuo Chu, Min-Chun Hu. “Bridging Coaching Knowledge and AI Feedback to Enhance Motor Learning in Basketball Shooting Mechanics Through a Knowledge-Based SOP Framework” *ACM Conference on Human Factors in Computing Systems, 2025 (CHI’25)*.
🏆 **Best Paper Honorable Mention Award**
- P19 **Tica Lin***, Ruxun Xiang*, Gardenia Liu, Divyanshu Tiwari, Chenjiayi Ye, Meng-Chia Chiang, Hanspeter Pfister, Chen Zhu-Tian. “SportsBuddy: Designing and Evaluating an AI-Powered Sports Video Storytelling Tool Through Real-World Deployment” *IEEE Pacific Visualization Conference, 2025 (Pacific Vis’25)*.
- P18 Chunggi Lee, **Tica Lin**, Hanspeter Pfister, Zhutian Chen. “Sportify: Question Answering with Embedded Visualizations and Personified Narratives for Sports Video.” *IEEE Transactions on Visualization and Computer Graphics, 2024 (VIS’24)*.
- P17 Andrew Kang, Hanspeter Pfister, **Tica Lin**. “PanoCoach: Enhancing Tactical Coaching and Communication in Soccer with Mixed-Reality Telepresence.” *IEEE First-Person Visualizations for Outdoor Physical Activities Workshop, 2024 (VIS’24 Workshop)*.
- P16 Simon Warchol, Jakob Troidl, Jeremy Muhlich, Robert Krueger, John Hoffer, **Tica Lin**, Johanna Beyer, Elena Glassman, Peter Sorger, Hanspeter Pfister. “psudo: Exploring Multi-Channel Biomedical Image Data with Spatially and Perceptually Optimized Pseudocoloring.” *Computer Graphics Forum, 2024 (Euro Vis’24)*.
- P15 **Tica Lin**, Hanspeter Pfister, Jui-Hsien Wang. “GenLens: A Systematic Evaluation of Visual GenAI Model Outputs.” *IEEE 17th Pacific Visualization Conference, 2024 (Pacific Vis’24 VisNotes)*.
🏆 **VisNotes Best Paper Award**
- P14 Yen-Ru Chen, Tsung-Hsun Tsai, **Tica Lin**, Calvin Ku, Min-Chun Hu, Hung-Kuo Chu. “Depth Perception Training in Boxing: An Immersive Design Approach.” *IEEE Conference on Virtual Reality and 3D User Interfaces, 2024 (IEEEVR’24 Poster)*.
- P13 **Tica Lin**, Alexandre Aouididi, Zhutian Chen, Johanna Beyer, Hanspeter Pfister, Jui-Hsien Wang. “VIRD: Immersive Match Video Analysis for High-Performance Badminton Coaching.” *IEEE Transactions on Visualization and Computer Graphics, 2023 (VIS’23)*.

- P12 Zhutian Chen, Daniele Chiappalupi, **Tica Lin**, Yalong Yang, Johanna Beyer, Hanspeter Pfister. “RL-LABEL: A Deep Reinforcement Learning Solution for AR Label Placement in Dynamic Scenarios.” *IEEE Transactions on Visualization and Computer Graphics*, 2023 (**VIS’23**).
- P11 Sungwon In, **Tica Lin**, Chris North, Hanspeter Pfister, Yalong Yang. “This is the Table I Want! Towards an Understanding of User Interface Based Data Transformation on Desktop and in Virtual Reality.” *IEEE Transactions on Visualization and Computer Graphics*, 2023.
- P10 **Tica Lin**, Ben Lafreniere, Yan Xu, Tovi Grossman, Daniel Wigdor, Michael Glueck. “XR Input Error Mediation for Hand-Based Input: Task and Context Influences a User’s Preference.” *IEEE International Symposium on Mixed and Augmented Reality*, 2023 (**ISMAR’23**).
- P9 Zhutian Chen, Qisen Yang, Jiarui Shan, **Tica Lin**, Johanna Beyer, Haijun Xia, Hanspeter Pfister. “iBall: Augmenting Basketball Videos with Gaze-moderated Embedded Visualizations.” *ACM Conference on Human Factors in Computing Systems*, 2023 (**CHI’23**).
- P8 **Tica Lin**, Zhutian Chen, Yalong Yang, Daniele Chiappalupi, Johanna Beyer, Hanspeter Pfister. “The Quest for Omniculars: Embedded Visualization for Augmenting Basketball Game Viewing Experiences.” *IEEE Transactions on Visualization and Computer Graphics*, 2022 (**VIS’22**).
 🏆 **Best Paper Honorable Mention Award**
- P7 **Tica Lin**, Zhutian Chen, Johanna Beyer, Yingcai Wu, Hanspeter Pfister, Yalong Yang. “The Ball is in Our Court: Conducting Visualization Research with Sports Experts.” *IEEE Computer Graphics and Applications*, 2022
- P6 **Tica Lin**, Yalong Yang, Johanna Beyer, Hanspeter Pfister. “Labeling Out-of-View Objects in Immersive Analytics to Support Situated Visual Searching.” *IEEE Transactions on Visualization and Computer Graphics*, 2021.
- P5 **Tica Lin**, Rishi Singh, Yalong Yang, Carolina Nobre, Johanna Beyer, Maurice Smith, Hanspeter Pfister. “Towards an Understanding of Situated AR Visualization for Basketball Free-Throw Training.” *ACM Conference on Human Factors in Computing Systems*, 2021 (**CHI’21**).
 🏆 **Best Paper Honorable Mention Award**
- P4 Barrett Ens, Benjamin Bach, Maxime Cordeil, Ulrich Engelke, Marcos Serrano, Wesley Willett, Arnaud Prouzeau, Christoph Anthes, Wolfgang Büschel, Cody Dunne, Tim Dwyer, Jens Grubert, Jason H Haga, Nurit Kirshenbaum, Dylan Kobayashi, **Tica Lin**, Monsurat Olaosebikan, Fabian Pointecker, David Saffo, Nazmus Saquib, Dieter Schmalstieg, Danielle Albers Szafir, Matt Whitlock, Yalong Yang. “Grand challenges in immersive analytics.” *ACM Conference on Human Factors in Computing Systems*, 2021 (**CHI’21**).
- P3 **Tica Lin**, Yalong Yang, Johanna Beyer, Hanspeter Pfister. “SportsXR –Immersive Analytics in Sports.” *4th Workshop on Immersive Analytics: Envisioning Future Productivity for Immersive Analytics*, 2020 (**CHI’20 Workshop**).
- P2 Hanspeter Pfister, **Tica Lin**, Yalong Yang, Johanna Beyer. Bringing the AR cloud to sports. *Harvard Business School Digital Initiative*, December/January Edition, 2019.
- P1 **Tica Lin**. Grow Design Quality as a Data Vis Designer. *Nightingale, Journal of Data Visualization Society*, 2019.

BOOK

Tica Lin. “我在 76 人的日子 (My 76ers Story)” 1st edition, AnYueXuan Publishing House, 2024. ISBN 978-626-01-2107-5.

🏆 AWARDS

Best Paper Award (Top 1%), ACM CHI Conference, 2026

Best Paper Honorable Mention Award (Top 5%), ACM CHI Conference, 2025

Best Paper Award (VisNotes), IEEE PacificVis Conference, *2024*
Taipei Women in Tech Honoree, *2024*
Best Paper Honorable Mention Award (Top 5%), IEEE VIS Conference, *2022*
Best Paper Honorable Mention Award (Top 5%), ACM CHI Conference, *2021*
Harvard College Teaching Award, Certificates of Distinction for Teaching Fellows, *2020*
Longlist, KANTAR Information is Beautiful Awards, *2019*
Best Master's Thesis Project Award, M.S. Digital Media at Georgia Tech, *2017*
Honorable Mention Award, MARTA Hackathon Smart City+IoT, Atlanta, *2017*
Finalist, NBA Basketball Analytics Hackathon, New York, *2016*

ACADEMIC SERVICES

Technical Program Co-Chair, Smart Realities Summit, Dolby Laboratories, *2026*
Workshop Co-Organizer, First-Person Visualizations for Outdoor Physical Activities: Challenges and Opportunities, IEEE VIS, *2024*
Reviewer, IEEE VIS/VR/TVCG, PacificVis, Computers & Graphics, CHI, UIST, *2019 - current*
Mentor, Harvard SEAS DIB Application Assistance Initiative, *2021*
Program Committee, VR/AR/MR Track, Grace Hopper Celebration, *2021*
Student Volunteer, IEEE VIS, *2021*
Thesis Mentor, Harvard Undergraduate Senior Thesis, *2020*

FELLOWSHIPS

GenAI Research Program/Summer Funding for Harvard College Students, *2024*
GSAS Professional Development Fund, Harvard University, *2022*
Young Scholar Award, North America Taiwanese Professors' Association, *2021*
Government Scholarship to Study Abroad (GSSA), Taiwan Ministry of Education, *2020*
PhD Fellowship, Harvard University, *2019*
JASSO Scholarship, Japan Student Services Organization, *2013*

SELECTED PRESS

"The Convergence of Sports and XR" by Hongik University Media Center
"Science is Everyone – Bringing Sports to All with AI and XR Tech" by The Science Coalition
"From game footage to great footage" by Harvard School of Engineering and Applied Sciences
"Analytics-driven Sixers ride the numbers to NBA playoffs" by The Philadelphia Inquirer
"From team captain to UX designer in NBA: The unchanged passion" by ECO Sports
"Basketball Analytics at NBA 76ers" by Sina.com
"Students Create AR Experiences for Entertainment and Education" by Georgia Tech Institute for People and Technology

INVITED TALKS & LECTURES

Hongik University, Department of Industrial and Data Engineering, *Sep 2025*
SportsXR: Transforming Sports Performance and Wellness through Immersive Data Visualizations

2025 PyCon Taiwan Keynote, *Sep 2025*
21st Century Sports Analytics and Technology Innovation

Asia Association of Coaching Science Conference, *Jun 2025*
Empowering Coaching through Data-Driven Video Analytics and Storytelling

ACT Basketball Youth Camp, *Apr 2025*
Empowering Athlete Growth and Storytelling with Video Analysis

Taiwan Institute of Sports Science, *Dec 2024*
21st Century Sports Analytics and Technology Innovation

Harvard Sports Analysis Collective, *Nov 2024*
From Analytics to Reality: Bringing Insights to Life with SportsXR

Institute of Information Science, Academia Sinica, *Sep 2024*
1) SportsXR: Bridging Human and Machine Intelligence through Immersive Visualizations for Sports
2) PhD Survival Kit - Things I wish I knew on Day One

TechGirls Program at Taiwan, U.S. Department of State, *Aug 2024*
Breaking Boundaries: My Journey Through the US Sports and Tech Industries

The Science of Sports by The Science Coalition, *June 2024*
SportsBuddy.ai: Creating Informative Game Highlights for Engaging Sports Data Storytelling

Georgia Tech, AI Artistic Human Performance Workshop, *May 2024*
SportsXR: Augmenting Spatial Intelligence through Immersive Sports Analytics

Harvard x MIT Taiwanese Student Research Talk, *March 2024*
SportsXR: Sports Analytics with Immersive Visualizations

University of Massachusetts Boston, CS 617 - Visualizing Boston, *March 2024*
SportsXR: Sports Analytics with Immersive Visualizations

Brandeis University, COSI 116A - Information Visualization, *November 2023*
Designing XR Visualizations for Real-life Analytic Tasks

JPMorgan Chase & Co, Applied Research Team, *October 2023*
Turn Data into Reality: Designing Contextual XR Visualizations for Situated Analytics

Georgia Tech, CS 4460 - Introduction to Information Visualization, *October 2023*
SportsXR: Augmenting Sports Analytics with Immersive Visualizations

Inria at Université Paris-Saclay, AVIZ research group, *April 2023*
From Data to Reality: Augmenting Sports Analytics Workflow with Situated Visualizations

Boston College, CSCI 3361 - Human-Computer Interaction, *April 2023*
Human-Centered Design in SportsXR

Harvard SEAS Research Showcase: SportsXR, *March 2023*

Harvard AR/VR Symposium: Sports Meet XR, *November 2022*

National Tsing Hua University, Department of Computer Science, *November 2022*
Sports Analytics & Visualization Research

Gate Sports Education: Introduction to Sports Analytics Workshop, *June 2022*

St. Ambrose University, KIN 401 - Seminar in Sport Management, *April 2022*
21st Century Sports Analytics & Innovation

Harvard University, CS 171 - Visualization, *2021*
Visualization Research Intro: Immersive Analytics in Sports

Gate Sports Education, *November 2021*
Study Abroad: PhD in Sports Technology & Analytics

World IA Day Atlanta, AR/VR Panel, *2017*