

XINGJIAN (JESSIE) HAN

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EDUCATION

- Boston University** *Sept. 2019-Present*
• Ph.D Candidate in Computer Science; GPA: 3.8/4.0
- The University of Manchester** *Oct. 2023-Oct. 2024*
• Visiting Ph.D. in Science and Engineering
- University of California, Berkeley** *Aug. 2016-Aug. 2018*
• Bachelor of Arts, Mathematics; GPA: 3.5/4.0
- Bellevue College** *Sept. 2014-Jun. 2016*
• Associate of Arts and Sciences DTA with High Distinction; GPA: 3.96/4.0

PUBLICATION

- [1] **Xingjian Han***, Yu Jiang* (equal contributions), Weiming Wang, Guoxin Fang, Simeon Gill, Zhiqiang Zhang, Shengfa Wang, Jun Saito, Deepak Kumar, Zhongxuan Luo, Emily Whiting, Charlie C.L. Wang, “Motion-Driven Neural Optimizer for Prophylactic Braces Made by Distributed Microstructures”, SIGGRAPH Asia 2024, accepted.
- [2] Yuming Huang*, Yuhu Guo* (equal contributions), Renbo Su, **Xingjian Han**, Junhao Ding, Tianyu Zhang, Tao Liu, Weiming Wang, Guoxin Fang, Xu Song, Emily Whiting, Charlie C.L. Wang, “Learning Based Toolpath Planner on Diverse Graphs for 3D Printing”, SIGGRAPH Asia 2024, accepted.
- [3] **Xingjian Han**, Benjamin Senderling, Stanley To, Deepak Kumar, Emily Whiting, Jun Saito, “GroundLink: A Dataset Unifying Human Body Movement and Ground Reaction Dynamics”, SIGGRAPH Asia 2023, accepted.
- [4] Zishun Liu, **Xingjian Han**, Yuchen Zhang, Xiangjia Chen, Yukun Lai, Eugeni L. Doubrovski, Emily Whiting, Charlie C.L. Wang, “Knitting 4D Garments with Elasticity Controlled for Body Motion”, SIGGRAPH 2021, accepted.

EXPERIENCE

- Boston University, Shape Lab, Department of Computer Science** Boston, MA
Research Assistant, Supervisor: Prof. Emily Whiting *Sept. 2019-present*
- GroundLink: A Dataset Unifying Human Body Movement and Ground Reaction Dynamics**
• Present a unified dataset comprised of captured ground reaction force (GRF) and center of pressure (CoP) synchronized to standard kinematic motion captures to provide streamline for character animation usage. Published at SIGGRAPH Asia 2023.
- Knitting 4D Garments with Elasticity Controlled for Body Motion**
• Proposed a method for designing customized tight-fitting garments with elasticity control that consider human comfort during motion, including 3D human body reconstruction, fabric deformation prediction, and garment simulation. Published at SIGGRAPH 2021.
- The University of Manchester, Digital Manufacturing Lab** Manchester, UK
Research Assistant, Supervisor: Prof. Charlie C.L. Wang *Oct. 2023-Oct. 2024*
- Motion-Driven Neural Optimizer for Prophylactic Braces Made by Distributed Microstructures**
• Proposed a motion-driven neural optimization framework to craft personalized braces that aim to prevent joint injuries while maintaining movement mobility. Published at SIGGRAPH Asia 2024.
- Learning Based Toolpath Planner on Diverse Graphs for 3D Printing**
• Present a reinforcement learning based on-the-fly planner to generate optimized 3D printing toolpaths on diverse graphs for the applications of wire-frame printing, continuous carbon fiber printing and metallic printing. Published at SIGGRAPH Asia 2024.

Adobe Inc., Creative Intelligence Lab, Adobe Research
Research Intern, Supervisors: Jun Saito, Ruben Villegas

Boston (Remote), MA
June 2021-Nov 2021

Learn Physics of Human Motion

- Conducted machine learning based animation research for character control. Adopted recurrent mode-adaptive neural networks for motion synthesis with foot contact to improve physics details.

University of Pennsylvania, SIG Center for Computer Graphics
Research Intern, Supervisor: Prof. Chenfanfu Jiang

Philadelphia, PA
May 2018-March 2019

Micropolar APIC Method for Turbulent Fluid

- Proposed to simulate turbulent fluid with Micropolar model based on Affine Particle in Cell (APIC) transfer, creating a more realistic and energetic rotational flow.

Phoebe A. Hearst Museum of Anthropology, UC Berkeley
Modeling Assistant, VR Development Assistant, Supervisor: Dr. Christopher Hoffman

Berkeley, CA
Jan 2018-May 2018

HeartCAVE 3D Reconstruction

- Developed a multi-platform VR interface to realize a digital museum experience. Adopted photogrammetry to create 3D models for the museum exhibitions and integrated them into the HeartCAVE VR applications.
- Partnered with Mingei International Museum at UCSD and other UC campuses with visualization platforms to enhance museum accessibility and foster immersive, flexible user interactions.

UC Berkeley, Department of Electrical Engineering and Computer Sciences
Research Assistant, Supervisor: Prof. Carlo H. Sequin

Berkeley, CA
Sept. 2017-May 2018

Sculpture Design and Math Models

- Employed various CAD tools (Maya, Blender, Rhino) for the procedural generation of 2-Manifold sculpture geometries, capturing and modifying the features of sculpture work from ceramists (Eva Hild and Charles O. Perry) to create more generalized functions for the design of 2-manifold free-form surfaces.

MapsReo LLC. (startup company)
Technical Manager and Co-Founder

Berkeley, CA
July 2017-Mar 2018

MapsReo

- Developed "MapsReo", a location-based social application promoting safe community interactions and reflecting local lifestyles. Features "Pin-up" for multimedia sharing and "Team-up" for spontaneous group events.
- Played a pivotal role in product design. Led and supervised the technical team. Liaised with the ASUC student senator to promote the application within the University of California community.

TEACHING

CS 131 Combinatoric Structures , Teaching Assistant, Boston University	Summer 2023
CS 581 Computational Fabrication , Teaching Assistant, Boston University	Spring 2022
CS 132 Geometric Algorithm , Guest Lecturer, Teaching Assistant, Boston University	Spring 2021
CS 237 Probability in Computing , Teaching Assistant, Boston University	Fall 2020

AWARDS AND LEADERSHIP

Top 1% International Student Academic Award, Bellevue, WA	2014-2016
National Second Level (Professional) of Athlete Certificate in Tennis, China	2007, 2012

SKILLS

Computer Graphics/Animation

Character Animation, Physics-based Simulation, Geometric Processing

Programming/Database

C++, Python, Java, Objective-C, Matlab, SQL, Git

VFX/Film and Game Production

Autodesk Maya, SideFX Houdini, Unreal Engine, Unity, etc