JIAYI ERIS ZHANG

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EDUCATION

University of Toronto   Sept. 2016 - June 2021 (Expected)
Honours BSc in Computer Science & Mathematics   Toronto, ON
Overall GPA: 3.96/4.0

RESEARCH INTERESTS

Geometry Processing, Physics-based Animation, Interactive Design Tools for Supporting Creativity

RESEARCH EXPERIENCE

Adobe Research   June 2020 - Present
Research Intern at the Emerging Graphics Group with Dr. Qi Sun   San Jose, CA (Remote)

· Working on a novel method for simulating skin microgeometry deformation

DGP Lab, University of Toronto   Sept. 2019 - May 2020
Research Assistant with Prof. David I.W. Levin and Prof. Alec Jacobson   Toronto, ON

· Worked on a novel method for adding secondary physical motion to rig-based animation

DGP Lab, University of Toronto   Mar. 2019 - July 2019
Research Assistant with Prof. Marc Alexa and Prof. Alec Jacobson   Toronto, ON

· Worked on a novel method for efficiently computing updates for least-squares rotational alignment
  problems and further optimized implementation using AVX vectorization

DGP Lab, University of Toronto   Sept. 2018 - 2019
Capstone Project with Prof. Alec Jacobson   Toronto, ON

· Worked on a shape optimization method that slims down supporting structures of 3D printing and
  further extended it to an interactive structural prototyping tool

DGP Lab, University of Toronto   Apr. 2018 - Sept. 2019
Research Assistant with Prof. Fanny Chevalier   Toronto, ON

· Worked on an image-editing-based user interface that facilitates pictorial visualization authoring

Numerical Analysis Group, University of Toronto   2018 - 2019
Research Assistant with Prof. Kenneth R.Jackson   Toronto, ON

· Worked on a two-level importance sampling algorithm in simulating financial portfolio credit risk

HONOURS AND AWARDS

Adobe Research Women-in-Technology Scholarship Link   2020
Awarded to outstanding female undergraduate/master computer science students worldwide

CRA Outstanding Undergraduate Researchers Award Finalist Link   2020
Awarded to top undergraduate computer science researchers in North America

University of Toronto Excellence Award UTEA	2019
Dean's Honour List	2017 - 2020
George Luste Prize in 1st Year Physics	2018
George Gray Falle Scholarship	2017
University of Toronto Scholar	2017
Admission Scholarship	2016

PUBLICATIONS

Fast Updates for Least-Squares Rotational Alignment
Jiayi Eris Zhang, Alec Jacobson, Marc Alexa
· *In submission*

Complementary Dynamics
Jiayi Eris Zhang, Seungbae Bang, David I.W. Levin, Alec Jacobson
· *ACM SIGGRAPH ASIA 2020*

DataQuilt: Extracting Visual Elements from Images to Craft Pictorial Visualizations
Jiayi Eris Zhang, Nicole Sultanum, Anastasia Bezerianos, Fanny Chevalier
· *ACM Conference on Human Factors in Computing Systems (CHI) 2020*

INVITED TALKS

Complementary Dynamics	December 2020
Technical Paper Presentation at SIGGRAPH ASIA 2020	Daegu, South Korea (Virtual)
Complementary Dynamics	November 2020
Research Talk at the Pixar Animation Studios hosted by Dr. Fernando de Gose	Virtual
Complementary Dynamics	November 2020
Research Talk at the Massachusetts Institute of Technology Graphics Seminar	Virtual
Complementary Dynamics	November 2020
Research Talk at the Epic Games hosted by Dr. Ryan Schmidt	Virtual
Complementary Dynamics	November 2020
Research Talk at the Graphics And Mixed Environment Seminar at MSRA	Virtual
Complementary Dynamics	November 2020
Opener Talk for Dr. Danny Kaufman at the Toronto Geometry Colloquium	Virtual
UltraSkin: towards Infinite Resolution Skin Modeling	June 2020
Adobe Research Intern Intro Talk	San Jose, US (Virtual)
DataQuilt: Extracting Visual Elements to Craft Pictorial Visualizations	May 2020
Technical Paper Presentation at CHI 2020	Honolulu, US (Virtual)
Exterior Rig Space	December 2019
Research Talk at the Montreal-Toronto pre-SIGGRAPH Workshop	Waterloo, Canada
Expressive Design for Infographics Authoring	September 2018
Undergraduate Research in Computer Science Conference	Toronto, Canada

TEACHING EXPERIENCE

CSC419/2520 Geometry Processing Fall 2020
Teaching Assistant with Prof. Alec Jacobson

ACADEMIC SERVICE

Reviewer   Eurographics 2021

SKILLS

Programming Languages: Python, C/C++, Java, Matlab, Javascript, HTML, CSS
Tools/Frameworks: React, D3.js, libigl, OpenGL, OpenCV, Pytorch, CUDA C, SIMD SSE/AVX
Softwares: Blender, MeshLab, Photoshop, Illustrator
Languages: English, Mandarin

SELECTED COURSEWORK

Graduate Courses
- Physics-based Animation • Seminar on Geometry and Animation I & II
- Geometry Processing • Foundation of Computer Vision • Matrix Calculations

Undergraduate Courses
- Computer Graphics • Intro to Visual Computing • Numerical Optimization
- Neural Networks • Operating Systems • Parallel Computing • Curves and Surfaces
- Numerical Methods • Computational Methods for Partial Differential Equations
- Advanced Ordinary Differential Equations

VOLUNTEER EXPERIENCE

HER CODE CAMP Panelist	2020
SIGGRAPH Student Volunteer in Los Angeles	2019