

# JIAYI ERIS ZHANG

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## EDUCATION

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**University of Toronto**

Honours BSc in Computer Science & Mathematics

*Overall GPA: 3.96/4.0*

Sept 2016 - June 2021

Toronto, ON

## RESEARCH INTERESTS

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

## RESEARCH EXPERIENCE

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**Adobe Research**

Research Intern at the Emerging Graphics Group with Dr. Qi Sun

June 2020 - Present

San Jose, CA (Remote)

- Working on a novel method for simulating skin microgeometry deformation

**DGP Lab, University of Toronto**

Research Assistant with Prof. David I.W. Levin and Prof. Alec Jacobson

Sept. 2019 - May 2020

Toronto, ON

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

**DGP Lab, University of Toronto**

Research Assistant with Prof. Marc Alexa and Prof. Alec Jacobson

Mar. 2019 - June 2019

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**

Capstone Project with Prof. Alec Jacobson

Sept. 2018 - 2019

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**

Research Assistant with Prof. Anastasia Bezerianos and Prof. Fanny Chevalier

Apr. 2018 - Sept. 2020

Toronto, ON

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

**Numerical Analysis Group, University of Toronto**

Research Assistant with Prof. Kenneth R. Jackson

2018 - 2019

Toronto, ON

- Worked on a two-level importance sampling algorithm in simulating portfolio credit risk based on Gaussian Copula Model

## HONOURS AND AWARDS

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**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

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### 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*

### Fast Updates for Least-Squares Rotational Alignment

Jiayi Eris Zhang, Marc Alexa, Alec Jacobson

· *Preprint. The work was submitted to SIGGRAPH Asia 2019 once and will be resubmitted soon*

## TEACHING EXPERIENCE

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### CSC419/2520 Geometry Processing

Fall 2020

Teaching Assistant with Prof. Alec Jacobson

## TALKS AND PRESENTATIONS

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HER CODE CAMP Panelist

July 2020

Adobe Research Intern Intro Talk

June 2020

Montreal-Toronto pre-SIGGRAPH Workshop (MOTOGRAPH)

December 2019

Undergraduate Research in Computer Science Conference (URCSC)

September 2018

Undergraduate Summer Research Program (UGSRP)

August 2018

## SKILLS

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**Programming Languages:** Python, C/C++, Java, Matlab, Javascript, HTML, CSS, Julia

**Tools/Frameworks:** React, D3.js, libigl, OpenGL, OpenCV, Pytorch, CUDA C, SIMD SSE/AVX

**Languages:** English, Mandarin

## SELECTED COURSEWORK

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### 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 • Differential Geometry
- Numerical Methods • Computational Methods for Partial Differential Equations
- Advanced Ordinary Differential Equations

## VOLUNTEER EXPERIENCE

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SIGGRAPH Student Volunteer in Los Angeles

2019