Minchen Li

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Philadelphia, P.A., USA  19104-6309

RESEARCH STATEMENT

My research interests include numerical optimization and simulation for computer graphics and beyond, especially physics-based animation and geometry processing. My current goal is to devise novel methods that are robust, accurate, and efficient to benefit visual effects, geometric design, robotics, engineering, virtual reality, games, etc.

EDUCATION

Ph.D. in Computer and Information Science
Department of Computer and Information Science, University of Pennsylvania
Advisor: Prof. Chenfanfu Jiang
GPA: 4.0/4.0
Philadelphia, U.S.A.

M.Sc. in Computer Science
Department of Computer Science, University of British Columbia
Advisor: Prof. Alla Sheffer
Grade Average: 95.3/100
Sep. 2015 – Apr. 2018
Vancouver, Canada

B.Eng. (Hons) in Computer Science and Technology (Mixed Class)
College of Computer Science & Technology and Chu Kochen Honors College, Zhejiang University
Overall GPA: 3.81/4.00
Major GPA: 3.88/4.00
Major Ranking: Top 3%
Hangzhou, China

HONORS AND SCHOLARSHIPS

Adobe Research Fellowship (10,000 USD)  2020
Mitacs Globalink Graduate Fellowship (10,000 CAD)  2015-2016
Excellent Bachelor Thesis Award (Zhejiang University)  Jun. 2015
First Class Scholarship for Outstanding Merits (Top 3% in Academic Performance, 5,000 RMB)  2013-2014

PUBLICATIONS [Google Scholar]

➢ Minchen Li, Zachary Ferguson, Teseo Schneider, Timothy Langlois, Denis Zorin, Daniele Panozzo, Chenfanfu Jiang, Danny M. Kaufman. Incremental Potential Contact: Intersection- and Inversion-free, Large-Deformation Dynamics. ACM Transactions on Graphics (SIGGRAPH), 2020


➢ Yu Fang*, Ziyin Qu* (equal contribution), Minchen Li, Xinxin Zhang, Yixin Zhu, Mridul Aanjaneya, Chenfanfu Jiang. IQ-MPM: An Interface Quadrature Material Point Method for Non-sticky Strongly Two-Way Coupled Nonlinear Solids and Fluids. ACM Transactions on Graphics (SIGGRAPH), 2020


### RESEARCH EXPERIENCE

- **Postdoctoral Researcher**, SIG Lab, University of Pennsylvania
  - Project: Differentiable Simulation
  - Advisor: Prof. Chenfanfu Jiang
  - Period: Feb. 2021 –

- **Research Assistant**, SIG Lab, University of Pennsylvania
  - Project: Physics-Based Animation
  - Advisor: Prof. Chenfanfu Jiang

- **Research Intern**, Creative Intelligence Lab, Adobe Research
  - Project: Cloth Simulation
  - Mentor: Dr. Danny Kaufman
  - Period: May. 2020 – Aug. 2020

- **Research Intern**, Creative Intelligence Lab, Adobe Research
  - Project: Variational Contact
  - Mentor: Dr. Danny Kaufman, Dr. Timothy Langlois
  - Period: May. 2019 – Aug. 2019

- **Research Intern**, Creative Intelligence Lab, Adobe Research
  - Project: Domain Decomposition
  - Mentor: Dr. Danny Kaufman, Dr. Timothy Langlois
  - Period: May. 2018 – Aug. 2018

- **Research Intern**, Creative Intelligence Lab, Adobe Research
  - Project: Surface Parameterization
  - Mentor: Dr. Danny Kaufman, Dr. Vladimir G. Kim
  - Period: Sep. 2017 – Nov. 2017

- **Research Assistant**, Imager Lab, University of British Columbia
  - Project: Geometric Modeling
  - Advisor: Prof. Alla Sheffer
  - Period: May. 2016 – Apr. 2018

- **Undergrad Research Assistant**, Institute of Artificial Intelligence, Zhejiang University
  - Project: Skeletal Animation
  - Advisor: Prof. Jijun Li
  - Period: Nov. 2014 – May. 2015

- **Mitacs Globalink Research Intern**, WiNMoS Lab, University of British Columbia
  - Project: Cloud-Based Gaming
  - Advisor: Prof. Victor C.M. Leung, Dr. Wei Cai

- **Research Trainee**, National Research and Innovation Training Program, China
  - Project: 3D Face Reconstruction
  - Advisor: Prof. Kun Zhou
TEACHING EXPERIENCE

Teaching Assistant, University of Pennsylvania

➢ **EAS 205 – Scientific Computing**  
  *Instructor*: Prof. Chenfanfu Jiang  
  *Period*: Jan. 2020 - Apr. 2020

➢ **CIS 563 - Physically Based Animation**  
  *Instructor*: Prof. Chenfanfu Jiang  

Teaching Assistant, University of British Columbia

➢ **CPSC 418 - Parallel Computation**  
  *Instructor*: Prof. Mark R. Greenstreet  

➢ **CPSC 314 - Computer Graphics**  
  *Instructor*: Dr. Mikhail Bessmeltsev  
  *Period*: Sep. 2015 - Dec. 2015

INVITED TALKS

➢ Incremental Potential Contact: Intersection- and Inversion-free, Large-Deformation Dynamics. [GAMES Webinar](#)  
  2020-164. Nov. 26, 2020. [recording (Chinese)]

➢ Robust and Accurate Simulation of Elastodynamics and Contact. School of Computing (SoC) Seminar, Clemson University. Nov. 20, 2020.


SERVICE

Reviewer [Publons Profile]

➢ IEEE ICRA (2021)

➢ IEEE TVCG (2020-)

➢ ACM Transactions on Graphics (2020-)

➢ ACM SIGGRAPH (2020)

➢ Eurographics (2020)

➢ Virtual Reality (2019-)