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Li-Ke Ma
Tsinghua University

EDUCATION

Tsinghua University **Beijing, China**
Ph.D. in Computer Sciences **Sep 2015 - Present**

- **Total GPA:** 3.68/4.00; **Major GPA:** 3.70/4.00
- **Selected Courses:** Advanced Machine Learning, Computer Graphics, Numerical Methods, Optimization Methods, Computational Geometry

Peking University **Beijing, China**
B.S. in Physics **Sep 2011 - Jul 2015**

- **Total GPA:** 3.79/4.00 (top 5%); **Major GPA:** 3.86/4.00 (top 5%)
- **Selected Courses:** Linear Algebra, Computational Mathematics, Statistical Mechanics, Quantum Mechanics, General Relativity

RESEARCH AND ACADEMIC EXPERIENCE

Strategy Discovering of Physics-based Character Control **Beijing, China**
Intern, Internet Graphics Group, MSRA **Sep 2019 - Present**

- Explore character control strategy under sparse spacetime constraints through deep reinforcement learning.

Physics-based Character Control using DRL **Vancouver, Canada**
Visiting Scholar, GrUVi Lab, Simon Fraser University **Sep 2018 - Aug 2019**

- Build a deep reinforcment learning framework that trains physics-based character to track given motion reference.
- Formulate the direction invariance problem in character's features extraction, and prove there is no singular-free solution for this problem.

Computational Design and Control of Deformable Objects **Beijing, China**
Intern, Internet Graphics Group, MSRA **Sep 2016 - Aug 2018**

- Implement robust FEM-based simulation tools for deformable and inflatable object simulation.
- Successfully design a pipeline that automatically optimizes material distribution in soft pneumatic objects to accomplish specific tasks.
- Implement an complex algorithm that automatically divides and flattens given 3D object to plane, so that inflatable object with similar shape can be manufactured by sewing these pieces together.

PUBLICATIONS

Li-Ke Ma, Zeshi Yang, Baining Guo, KangKang Yin: *Towards Robust Direction Invariance in Character Animation*. Computer Graphics Forum (Pacific Graphics), 38(7), 2019.

Li-Ke Ma*, Yizhong Zhang*, Yang Liu, Kun Zhou, Xin Tong: *Computational Design and Fabrication of Soft Pneumatic Objects with Desired Deformations*. ACM Transactions on Graphics (SIGGRAPH Asia), 36(6), 2017.

SELECTED AWARDS AND HONORS

CSC Scholarship China Scholarship Council, China Aug 2018
Guanghua Scholarship Tsinghua Univ., Beijing Dec 2017
Excellent Graduate Student Peking Univ., Beijing Jun 2015
National Scholarship (top 1%) Department of Education, China Dec 2013
Gold Medal of 12th Asia Physics Olympiad (APhO) 12th APhO Committee, Israel May 2011

ADDITIONAL INFORMATION

Skills: C/C++, Python, Matlab, Linux, LaTeX
Hobby math, physics, philosophy and Chinese history