

Songrun Liu

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4th-year PhD Student in Computer Science

My interest is to solve challenging visual, geometry, and design problems.

SKILLS

Languages

Python, C, C++, Objective-C, Javascript, Java, English, Chinese, Latex, GLSL

Computer Graphics

Interactive graphics, geometry processing, shape deformation, pattern recognition, splines, user interface design.

Mathematics

Algorithms, Linear Algebra, Numerical Analysis, Integral & Differential Calculus, Discrete Math, Quantitive Methods & Experimental Design, linear and non-linear optimization.

Software Development

Object-oriented programming, iOS platform, git, HTML5, Three.js, jQuery, NumPy, OpenGL

Development Environments

Command line GNU, BBEdit, Xcode

EDUCATION

George Mason University (2013–present): Ph.D. Candidate in Computer Science

George Mason University (2011–2013): M.S. in Computer Science

Zhejiang University (2008–2011): M.S. in Software Engineering

Zhejiang University (2004–2008): B.S. in Computer Science and Technology; Chu Kochen's Honor Diploma

PAPERS & POSTERS

Liu, Songrun, Alec Jacobson, and Yotam Gingold. "Skinning Cubic Bezier Splines and Catmull-Clark Subdivision Surfaces." *ACM Transactions on Graphics (TOG)* 33(6). Also in *Proceedings of SIGGRAPH Asia 2014*.

WORK EXPERIENCE / SIGNIFICANT PROJECTS

Intern, Cleverex System, Inc., Beijing, China

2011

- PROMIS: A head start Assisting program. I took the responsibility to develop an iPad graphic interface to connect the database in order to attract potential users using iOS.

Technical Assistant, The Helen A. Kellar Institute for Human disAbilities (KIHD), Fairfax, VA

2012–2013

- NewLifeTrip: An iPhone-based app which can make a route guide by taking photos and recording voice instructions for intellectually disabled people.
- MonopolyEditor: An iPad-based app which can help teachers make customized monopoly games that combine answering questions and fun together. Each game file can be edited, saved and shared via email.

Research Assistant, Computer Science Department, GMU

2013–present

- Fleet: A Distributed Information Gathering and Processing System for the Alleviation of Commercial Air Travel Anxiety.
- Lifting: A research project which aims to lift 3D curves from user sketches by data-driven approach.
- Vector Skinning: A research project which takes advantage of optimization methods to bridge a long-standing gap between mesh-based deformation techniques and vector graphics
- Skinning SVG made of Cubic Bézier Splines and Catmull-Clark Subdivision surfaces.

SCHOLARSHIPS / AWARDS

Federal Aviation Administration, First Place in Design Competition For Universities (2013)

Zhejiang University, Excellent postgraduate students' award (2010)

Zhejiang University, First-class Graduate Honor Award (2009)

Zhejiang University, 3rd Prize in Scholarship for Study (2007)