

Zhonghua Xi

MASC Group	http://masc.cs.gmu.edu/wiki/ZhonghuaXi
Department of Computer Science	Cell: +1-703-901-2750
George Mason University	Email: zxi@gmu.edu
4400 University Dr., Fairfax, VA 22032, USA	Office: ENGR Bldg 2021

Education

- Ph.D. in CS** George Mason University, USA, 2017 Expected, GPA: 3.85/4.0
Thesis topic: Making Shapes Foldable
Advisor: Dr. Jyh-Ming Lien
- M.S. in CS** George Mason University, USA, 2015, GPA: 3.82/4.0
- B.E. in ME** Shanghai Jiao Tong University, China, 2009, GPA: 3.15/4.3

Professional Experience

Graduate Teaching Assistant, George Mason University, Aug. 2016 - Now

- CS 480/580 Artificial Intelligence

Graduate Research Assistant, George Mason University, Sep. 2012 - May. 2016

- Motion and Shape Computing Group (MASC)
- Advisor: Dr. Jyh-Ming Lien

Software Engineering Intern, Google, May. 2016 - Aug. 2016

- Machine Perception Group
- Mentor: Dr. Andrew Gallagher

Software Engineering Intern, Google, Jun. 2015 - Aug. 2015

- Google Analytics Backend
- Mentor: Dr. Yang Wang

Research Interests

Computational Origami, Robotics, Computer Graphics, Computer Vision

Publications

Publications in Refereed Journals

- [1] Yanyan Lu, **Zhonghua Xi**, and Jyh-Ming Lien. “Online Collision Prediction Among 2D Polygonal and Articulated Obstacles”. In: *International Journal of Robotics Research (IJRR)* 35.5 (Apr. 2016), pp. 476–500.

Publications in Refereed Conferences

- [1] Guilin Liu, **Zhonghua Xi**, and Jyh-Ming Lien. “Nearly Convex Segmentation of Polyhedra Through Convex Ridge Separation”. In: *Symposium on Solid & Physical Modeling (SPM); also appears in Journal of Computer-Aided Design*. Berlin, Germany, June 2016.
- [2] Huangxin Wang, **Zhonghua Xi**, Fei Li, and Songqing Chen. “Abusing Public Third-Party Services for EDoS Attacks”. In: *10th USENIX Workshop on Offensive Technologies (WOOT)*. Austin, Texas, Aug. 2016.
- [3] **Zhonghua Xi**, Yun-hyeong Kim, Young J. Kim, and Jyh-Ming Lien. “Learning to Segment and Unfold Polyhedral Mesh from Failures”. In: *Shape Modeling International (SMI); also appears in Journal of Computers & Graphics*. Berlin, Germany, June 2016.
- [4] **Zhonghua Xi** and Jyh-Ming Lien. “Continuous Unfolding of Polyhedra - a Motion Planning Approach”. In: *2015 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. Hamburg, Germany, Sept. 2015, pp. 3249–3254.
- [5] **Zhonghua Xi** and Jyh-Ming Lien. “Folding and Unfolding Origami Tessellation by Reusing Folding Path”. In: *2015 IEEE International Conference on Robotics and Automation (ICRA)*. Seattle, WA, May 2015.
- [6] **Zhonghua Xi** and Jyh-Ming Lien. “Plan Folding Motion for Rigid Origami via Discrete Domain Sampling”. In: *2015 IEEE International Conference on Robotics and Automation (ICRA)*. Seattle, WA, May 2015.
- [7] Guilin Liu, **Zhonghua Xi**, and Jyh-Ming Lien. “Dual-Space Decomposition of 2D Complex Shapes”. In: *27th IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. Columbus, OH: IEEE, June 2014.
- [8] Yanyan Lu, **Zhonghua Xi**, and Jyh-Ming Lien. “Collision Prediction Among Polygons with Arbitrary Shape and Unknown Motion”. In: *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. Chicago, IL, Sept. 2014.

- [9] Yanyan Lu, **Zhonghua Xi**, and Jyh-Ming Lien. “Collision Prediction: Conservative Advancement Among Obstacles With Unknown Motion”. In: *International Design and Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC/CIE)*. Buffalo, NY: ASME, Aug. 2014.
- [10] Yanyan Lu, **Zhonghua Xi**, and Jyh-Ming Lien. “Predict Collision Among Rigid and Articulated Obstacles with Unknown Motion”. In: *The Eleventh International Workshop on the Algorithmic Foundations of Robotics (WAFR)*. Istanbul, Turkey, Aug. 2014.
- [11] **Zhonghua Xi** and Jyh-Ming Lien. “Determine Distinct Shapes of Rigid Origami”. In: *The 6th International Meeting on Origami in Science, Mathematics and Education (6OSME)*. Tokyo, Japan, Aug. 2014.
- [12] **Zhonghua Xi** and Jyh-Ming Lien. “Folding Rigid Origami with Closure Constraints”. In: *International Design and Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC/CIE)*. Buffalo, NY: ASME, Aug. 2014.
- [13] **Zhonghua Xi**, Jyh-Ming Lien, Yi-Chang Chiu, and C. Y. David Yang. “Identify and Visualize Differences in Vehicle Trajectory Data”. In: *7th International Visualization in Transportation Symposium*. Irvine, CA: TRB, Oct. 2013.

Technical Reports

- [1] Guilin Liu, **Zhonghua Xi**, and Jyh-Ming Lien. *Nearly Convex Segmentation of Polyhedra Through Convex Ridge Separation*. Tech. rep. GMU-CS-TR-2015-3. 4400 University Drive MSN 4A5, Fairfax, VA 22030-4444 USA: Department of Computer Science, George Mason University, 2015.
- [2] **Zhonghua Xi** and Jyh-Ming Lien. *Folding and Unfolding Origami Tessellation by Reusing Folding Path*. Tech. rep. GMU-CS-TR-2015-2. 4400 University Drive MSN 4A5, Fairfax, VA 22030-4444 USA: Department of Computer Science, George Mason University, 2015.
- [3] **Zhonghua Xi** and Jyh-Ming Lien. *Plan Folding Motion for Rigid Origami via Discrete Domain Sampling*. Tech. rep. GMU-CS-TR-2015-4. 4400 University Drive MSN 4A5, Fairfax, VA 22030-4444 USA: Department of Computer Science, George Mason University, 2015.
- [4] Yanyan Lu, **Zhonghua Xi**, and Jyh-Ming Lien. *Conservative Collision Prediction Among Polygons with Unknown Motion*. Tech. rep. GMU-CS-TR-2013-4. George Mason University, 2013.

Honors and Awards

- [1] Outstanding Academic Achievement. *Department of Computer Science, George Mason University*. 2015.
- [2] Travel Grant Award. *ICRA*. 2015.
- [3] Travel Grant Award. *IROS*. 2014.
- [4] 1st Prize in Multi-label Text Classification Competition. *Machine Learning Summer School, CMU*. 2014.
- [5] 2nd Prize in Human Recognition Competition. *Baidu*. RMB 10000 awarded. 2013.

Professional Activities and Services

Reviewer

- IEEE International Conference on Robotics and Automation (ICRA) 2015
- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2015
- IEEE Robotics and Automation Letters (RA-L) 2015
- Geometric & Physical Modeling (GD/SPM) 2015

External Reviewer

- ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC/CIE) 2015, 2014
- Robotics Science and Systems (RSS) 2015
- Shape Modeling International Conference (SMI) 2015, 2013
- International Journal of Robotics Research (IJRR) 2014
- Geometric & Physical Modeling (GD/SPM) 2016, 2014, 2013
- Transactions on Automation Science and Engineering (T-ASE) 2014
- International Workshop on the Algorithmic Foundations of Robotics (WAFR) 2014
- ACM SIGGRAPH Conference on Motion in Games (MIG) 2013
- ACM SIGGRAPH 2013
- Transaction on Robotics (T-RO) 2012

Professional Affiliations

- IEEE Student Member, 2014 - present
- IEEE Robotics and Automation Society Student Member, 2014 - present
- ASME Student Member, 2014 - present

Research Talks

- Learning to Segment and Unfold Polyhedral Mesh from Failures, The First PhD CS Research Symposium Day, George Mason University, Mar. 2016.
- Folding and Unfolding Origami Tessellation by Reusing Folding Path, IEEE International Conference on Robotics and Automation (ICRA), May. 2015.
- Plan Folding Motion for Rigid Origami via Discrete Domain Sampling, IEEE International Conference on Robotics and Automation (ICRA), May. 2015.
- Folding Rigid Origami with Closure Constraints, International Design and Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC/CIE), Aug. 2014.
- Collision Prediction: Conservative Advancement Among Obstacles with Unknown Motion, International Design and Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC/CIE), Aug. 2014.
- Collision Prediction Among Polygons with Arbitrary Shape and Unknown Motion, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Sep. 2014.
- Dual-Space Decomposition of 2D Complex Shapes, 27th IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Poster session, Jun. 2014.
- Identify and Visualize Differences in Vehicle Trajectory Data, 7th International Visualization in Transportation Symposium, Oct. 2013.

Conference Attendances

- IEEE International Conference on Robotics and Automation (ICRA), Seattle, WA, USA, 2015
- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Chicago, IL, USA, 2014

- IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Columbus, OH, USA 2014
- ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC/CIE), Buffalo, NY, 2014
- International Symposium on Visualization in Transportation (IVTS), Irvine, CA, 2013
- Fall Workshop on Computational Geometry (FWCG), College Park, MD, USA, 2012

Languages

- **English:** Full professional proficiency
- **Chinese:** Native or bilingual proficiency
- **Shanghainese:** Native or bilingual proficiency
- **Japanese:** Limited working proficiency