

## Education

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**Tsinghua University**      Master of Science in Computer Science      Sept.2013 -- Jul.2016  
Interdisciplinary Master Program, Dept. of Computer Science and Technology | Advisor: Prof. Shi-Min Hu

**Beijing University of Technology**      Bachelor of Engineering      Sept.2007 -- Jul.2011  
Digital Media Technology, College of Software Engineering

## Publications

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### Computational Design of Transforming Pop-up Books

ACM Transactions on Graphics, Vol. 37, No.1, 2018. Presented at SIGGRAPH 2018.

*Nan Xiao, Zhe Zhu, Ralph Martin, Kun Xu, Jia-Ming Lu and Shi-Min Hu*

### Intelligent Architecture and Hybrid Model of Ground and Launch System for Advanced Launch Site

IEEE Aerospace Conference 2019. Accepted.

*Litian Xiao, Nan Xiao, Mengyuan Li, Zhanqing Liu, Fei Wang, Yuliang Li and Kewen Hou*

## Work Experience

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Advanced Technology Engineer      **China Aerospace Science and Technology Corporation**      Jul. 2016 -- Present  
In charge of information technology solution general design and development.

UX Designer Intern      **Hulu Beijing**      Apr. 2015 -- Mar. 2016  
Improved the user experience of the Hulu website, app and data analysis tools.

Front-End Developer      **North China Institute of Computing Technology**      Apr. 2011 -- Jun. 2013  
In charge of 2D and 3D front-end graphical user interfaces development.

## Awards & Honors

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Outstanding Graduate of Beijing University of Technology	2010 -- 2011
2009-2010 Academic Year Scholarship of Academic Excellence	2009 -- 2010
2008-2009 Academic Year Scholarship of Academic Excellence	2008 -- 2009

## Skills

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<b>Research Interests</b>	Computer Graphics, Computational Design, HCI, Art & Design, Computer Vision
<b>Program Languages</b>	Python, C++, JavaScript, JAVA, Html5+CSS
<b>Program Tools</b>	OpenGL, OpenCV, D3.js, Qt, PyTorch
<b>Design Software</b>	Photoshop, Premiere, After Effects, Dreamweaver, 3dsMax, Maya, MotionBuilder, ZBrush
<b>Art &amp; Design Skills</b>	CG Painting, UX Design, 2D/3D Animation

## Major Courses Implementations

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- Interactive 3D Visualization of Voronoi and Delaunay**  
*Course: Computational and Combinatorial Geometry | Advisor: Prof. Junhui Deng | Grade: 97/100*
- Monte Carlo Global Illumination Renderer**  
*Course: Computer Graphics | Advisor: Prof. Shi-Min Hu | Grade: 97/100*
- 3D Face Reconstruction from Single Image using Shape from Shading**  
*Course: Computer Vision | Advisor: Prof. Jiangtao Wen | Grade: 90/100*
- Interactive Data Visualization and Infographic Design**  
*Course: Techniques of Human-Machine Interactive and Interface | Advisor: Prof. Yuanchun Shi | Grade: 95/100*

## Featured Projects

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### Advanced Technology Research and Application @ China Aerospace Science and Technology Corporation

- Oct. 2017 – Jun. 2018      **1. Immersive VR System for Exploring Lunar Surface Environment**  
*Lead Engineer*
- Developed the immersive VR system to help staff understand the lunar surface environment from the autonomous rover.
- Aug. 2017 – May. 2018      **2. Intelligent Architecture and Hybrid Model of Ground and Launch System for Advanced Launch Site**  
*Publication Co-author*
- Introduced the intelligent functional architecture we built for the advanced launch site systems.
- Sept. 2016 – Jun. 2017      **3. Land Use and Land Cover Classification using Convolutional Neural Networks**  
*Thesis mentor*
- Implemented and trained a CNN-based classifier for LULC analysis.
  - Used a range of approaches, such as transfer learning, to improve the accuracy, and compared the results.
  - Guided and advised the master student throughout the funding proposal, experiment design, algorithm implementation, and thesis writing.

### Research-Oriented Projects @ Tsinghua University

- Dec. 2015 – Aug. 2017      **1. Computational Design of Transforming Pop-up Books**  
*Master Thesis*
- Presented a novel approach to automatically generate transforming pop-up structures that smoothly transform between two 2D patterns.
  - Demonstrated the effectiveness of our approach with many shape pairs.
  - Presented at SIGGRAPH 2018.
- Jan. 2015 – Sept. 2015      **2. Sketch to Motion: A Sketch-based User Interface for NAO robot Motion Design**  
*Research Assistant*
- Presented a sketch-based user interface assisting in designing robot motions by sketching postures.
  - Built a data-driven “*Balance Postures Graph*” to find the optimal postures motion path between two different postures.
- Sept. 2014 – Dec. 2014      **3. Research on Vehicle Detection of Street Scenes**  
*Research Assistant*
- Trained a CNN-based classifier to detect cars from street scene images.

### Application-Oriented Projects

- Nov. 2014 – Jul. 2015      **1. Uup: Vehicle Head-Up Display Application**  
*Co-founder*
- Designed and developed a mobile device that could use the reflection of the vehicular windscreen as a display screen to avoid drivers looking at their phones when using the GPS map.
  - Won a 50,000-yuan funding from “Tsinghua Innovation Plus” to establish a start-up in 2015.
- Jan. 2015 – May. 2015      **2. Real-world Objects Interaction with Microsoft PixelSense Table**  
*Research Assistant*
- Developed an application using the optical sensor of Microsoft PixelSense Table to recognize the phone on the table. By placing mobile phones on the PixelSense Table, users could “shake” their photos out of the phone onto the table screen to share them with friends.
- Mar. 2014 – May. 2014      **3. VehicleAR: Vehicle Design Exhibition with Augmented Reality**  
*Lead Developer*
- Developed an interactive AR software to put a 1:1 scale detailed virtual digital vehicle model into exhibition space for the automotive design grad show at Tsinghua University in 2014.
- Sept. 2010 – May. 2011      **4. Motion Sensing Augmented Reality Game Design and Development**  
*Undergraduate Thesis*
- Designed and developed a 3D AR game with gesture recognition and gravity detecting features.
  - Supported Windows(AIR/AS3.0) and Android platform(NDK/C++/JAVA).