

RAN ZHANG

Ph.D. in Computer Graphics

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EXPERIENCE

Senior Research Scientist & Project Lead

Tencent Pixel Lab

📅 Aug. 2022 – Present 📍 New York City, USA

- Led the neural rendering project at Pixel Lab, delivered prototypes for realtime rendering and editing Neural Radiance Fields(NeRF) and Neural Textures, and published a paper on editing NeRFs.
- Led the generative video project at Pixel Lab, delivered prototypes for consistent video generation based on image diffusion models, and made an art paper collaborated with professional film makers.
- Led the GenAI infrastructure project at Pixel Lab, delivered a platform for authoring and automatic deploying multi-modal GenAI workflows for generating media contents such as images and videos.

Co-founder & Tech Lead

Brick Studio (Seed round funded startup with 10M\$ ARR)

📅 Jun. 2020 – Jun. 2021 📍 Shenzhen, China

- Developed the world's first portrait-based lego model generation system with my teammates during Deecamp 2020.
- Developed the software used internally for generating brick toys.
- Created the product pipeline for the design team and manufacturing team.

Postdoctoral researcher

Hasso Plattner Institute

📅 Feb. 2021 – Jun. 2022 📍 Berlin, Germany 👤 Prof. Patrick Baudisch

- Worked on computational design of designing cardboard furniture.
- Advised doctor and master students on their thesis projects.

Institute of Science and Technology Austria (ISTA)

📅 Oct. 2020 – Jan. 2021 📍 Klosterneuburg, Austria 👤 Prof. Bernd Bickel

- Built a computational design system for multistable structures.

Research intern

Microsoft Research Asia

📅 Aug. 2018 – Dec. 2018 📍 Beijing, China 👤 Dr. Yang Liu

- Worked on simulation methods for the physics on developable surfaces.

📅 Feb. 2013 – May. 2013 📍 Beijing, China 👤 Dr. Xin Tong

- Developed a volumetric registration method for non-rigid 3D models.

Visiting PhD student

University College London

📅 Mar. 2017 – May 2017 📍 London, UK 👤 Prof. Niloy Mitra

- Worked on computational fabrication of string weaving surfaces.

📅 Sep. 2016 – Oct. 2016 📍 London, UK 👤 Prof. Tim Weyrich

- Worked on appearance capturing of 3D printed translucent materials.

RESEARCH MOTTO

"Think like an amateur, do as an expert."

RESEARCH INTERESTS



Neural Rendering

Learning to represent and render versatile 3D contents



Generative Media

Controllable generation of image, video and 3D assets



Generative Procedural Modeling

Generate complex hi-res content with large procedural generative model

EDUCATION

Ph.D. in Computer Graphics

Institute of Science & Technology Austria

📅 Sep. 2014 – Sep. 2020 📍 Klosterneuburg, Austria

👤 Prof. Bernd Bickel

M.Sc. in Electronic Engineering

University of Science & Technology of China

📅 Sep. 2011 – Jun. 2014 📍 Hefei, China

👤 Prof. Xuejin Chen & Prof. Ligang Liu

B.Sc. in Electronic Engineering

Tianjin University

📅 Sep. 2007 – Jun. 2011 📍 Tianjin, China

AWARDS



Outstanding Contributor at Tencent 2023H1



Deecamp 2020 Grand Champion Team



SIGGRAPH 2020 Thesis Fast Forward Final List



EU Marie Skłodowska-Curie ITN Fellowship

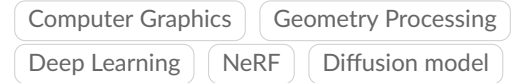
PUBLICATIONS

- Ruiyang Liu[†], Jinxu Xiang[†], Bowen Zhao, **Ran Zhang***, Jingyi Yu, and Changxi Zheng. “**Neural Impostor: Editing Neural Radiance Fields with Explicit Shape Manipulation**”. In: *Computer Graphics Forum (Proceedings of Pacific Graphics 2023)* (2023).
- Zhenyuan Liu, Jingyu Hu, Hao Xu, Peng Song, **Ran Zhang**, Bernd Bickel, and Chi-Wing Fu. “**Worst-Case Rigidity Analysis and Optimization for Assemblies with Mechanical Joints**”. In: *Computer Graphics Forum(Proceedings of Pacific Graphics 2023)* 41.2 (2022).
- Muhammad Abdullah, Romeo Sommerfeld, Laurenz Seidel, Jonas Noack, **Ran Zhang**, Thijs Roumen, and Patrick Baudisch. “**Roadkill: Nesting Laser-Cut Objects for Fast Assembly**”. In: *Proceedings of UIST 2021* (2021). (Best Paper Honorable Mention).
- Oskar Elek, **Ran Zhang**, Denis Sumin, Karol Myszkowski, Bernd Bickel, Alexander Wilkie, Jaroslav Křivánek, and Tim Weyrich. “**Robust and practical measurement of volume transport parameters in solid photo-polymer materials for 3D printing**”. In: *Optics Express* 29.5 (2021), pp. 7568–7588.
- Robert Kovacs, Lukas Rambold, Lukas Fritzsche, Dominik Meier, Jotaro Shigeyama, Shohei Katakura, **Ran Zhang**, and Patrick Baudisch. “**Trusscillator: a System for Fabricating Human-Scale Human-Powered Oscillating Devices**”. In: *Proceedings of UIST 2021* (2021). (Best Demo Honorable Mention).
- **Ran Zhang**, Thomas Auzinger, and Bernd Bickel. “**Computational Design of Planar Multistable Compliant Structures**”. In: *ACM Trans. Graph. (Presented at SIGGRAPH Asia 2021)* (2021).
- Kazutaka Nakashima, Thomas Auzinger, Emmanuel Iarussi, **Ran Zhang**, Takeo Igarashi, and Bernd Bickel. “**CoreCavity: Interactive Shell Decomposition for Fabrication with Two-Piece Rigid Molds**”. In: *ACM Trans. Graph. (Proceedings of SIGGRAPH 2018)* 37.4 (2018), 135:1–135:13.
- Oskar Elek, Denis Sumin, **Ran Zhang**, Tim Weyrich, Karol Myszkowski, Bernd Bickel, Alexander Wilkie, and Jaroslav Křivánek. “**Scattering-Aware Texture Reproduction for 3D Printing**”. In: *ACM Trans. Graph. (Proceedings of SIGGRAPH Asia 2017)* 36.6 (Nov. 2017).
- **Ran Zhang**, Thomas Auzinger, Duygu Ceylan, Wilmot Li, and Bernd Bickel. “**Functionality-aware Retargeting of Mechanisms to 3D Shapes**”. In: *ACM Trans. Graph. (Proceedings of SIGGRAPH 2017)* 36.4 (July 2017).
- **Ran Zhang**[†], Shiwei Wang[†], Xuejin Chen, Chao Ding, Luo Jiang, Jie Zhou, and Ligang Liu. “**Designing Planar Deployable Objects via Scissor Structures**”. In: *IEEE Transactions on Visualization and Computer Graphics* 22.2 (Feb. 2016), pp. 1051–1062.
- **Ran Zhang**, Xuejin Chen, Takaaki Shiratori, Xin Tong, and Ligang Liu. “**An efficient volumetric method for non-rigid registration**”. In: *Graphical Models* 79 (2015), pp. 1–11.

TECH STACKS



PROFESSIONAL SKILLS



REFEREES

Prof. Bernd Bickel

🏠 IST Austria/ETH Zurich/Google

✉ bernd.bickel@ist.ac.at

🏠 berndbickel.com

Prof. Patrick Baudisch

🏠 Hasso Plattner Institute/Kyub

✉ patrick.baudisch@hpi.de

🏠 patrickbaudisch.com

Prof. Changxi Zheng

🏠 Columbia University/Tencent

✉ cxz@cs.columbia.edu

🏠 www.cs.columbia.edu/~cxz/

MISCELLANEOUS

Contributor

GAMES: Graphics And Mixed Environment Seminar

📅 Since 2017 🔗 games-cn.org

- GAMES webinar is the most popular computer graphics webinar in China.

Co-founder

GraphiCon: Yet another graphics blog

📅 Since 2017

🔗 zhuanlan.zhihu.com/graphicon

- GraphiCon is one of the most popular computer graphics blogs in China.