

# Yanran Guan (管焱然)

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## EDUCATION

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- **Carleton University** Ottawa, ON, Canada  
Ph.D. in Computer Science Sept. 2020 – Present  
M.C.S. in Computer Science Sept. 2017 – Dec. 2019
- **Donghua University** Shanghai, China  
B.E. in Computer Science and Technology Sept. 2013 – June 2017
- **Shanghai International Studies University** Shanghai, China  
B.A. (Minor) in French Language Sept. 2014 – June 2017

## EXPERIENCE

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- **Carleton University** Ottawa, ON, Canada  
Research Assistant Sept. 2017 – Present
  - Researched on functionality analysis for evaluating and modeling hybrid shapes.
  - Research on shape generation and synthesis problems based on [deep generative models](#).Teaching Assistant Sept. 2018 – Present
  - Advise students in office hours and grade assignments, exams, and final projects.
- **Huawei Technologies Canada** Markham, ON, Canada  
Associate Researcher Jan. 2021 – Dec. 2021
  - Researched on learning implicit neural representations for the surface parameterization of 3D objects.
  - Researched on manipulating and rendering 3D surfaces implicitly defined by [signed distance functions](#).
- **Carleton Immersive Media Studio** Ottawa, ON, Canada  
Research Assistant Jan. 2020 – Aug. 2020
  - Researched on [segmentation problems of point clouds](#), including semantic segmentation and instance segmentation.
  - Developed algorithms and tools to segment and classify objects valued as heritage assets, to assist the creation of the heritage building information model of the [Centre Block](#) in Ottawa.
- **Canadian Food Inspection Agency** Ottawa, ON, Canada  
Junior Data Scientist May 2018 – Dec. 2019
  - Developed algorithms and tools for risk analysis and compliance prediction to enhance the effectiveness of the agency's oversight activities.

## SERVICE

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- **Invited Reviewer**
  - KSII Transactions on Internet and Information Systems (TIIS) 2020
  - ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games (I3D) 2020
  - International Conference on Systems and Informatics (ICSAI) 2019

## TEACHING

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- **Teaching Assistant**

COMP4501A Advanced Facilities for Real-Time Games	Winter 2022, Winter 2019
COMP4102A Computer Vision	Winter 2021
COMP3005B Database Management Systems	Fall 2020, Fall 2019
COMP4003A Transaction Processing Systems	Fall 2019
COMP2406A Fundamentals of Web Applications	Fall 2018

## PUBLICATIONS

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1. **Yanran Guan**, Han Liu, Kun Liu, Kangxue Yin, Ruizhen Hu, Oliver van Kaick, Yan Zhang, Ersin Yumer, Nathan Carr, Radomir Mech, and Hao Zhang. FAME: 3D Shape Generation via Functionality-Aware Model Evolution. *IEEE Transactions on Visualization and Computer Graphics*, 28(4):1758–1772, 2022.  
arXiv preprint: [arXiv:2005.04464](https://arxiv.org/abs/2005.04464)  
DOI: [10.1109/tvcg.2020.3029759](https://doi.org/10.1109/tvcg.2020.3029759)
2. Tansin Jahan\*, **Yanran Guan**\*, and Oliver van Kaick. Semantics-Guided Latent Space Exploration for Shape Generation. *Computer Graphics Forum*, 40(2):115–126, 2021. (\*co-first authors)  
DOI: [10.1111/cgf.142619](https://doi.org/10.1111/cgf.142619)
3. **Yanran Guan**, Tansin Jahan, and Oliver van Kaick. Generalized Autoencoder for Volumetric Shape Generation. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops*, pages 1082–1088, 2020.  
DOI: [10.1109/cvprw50498.2020.00142](https://doi.org/10.1109/cvprw50498.2020.00142)
4. **Yanran Guan**. 3D Functionality Analysis for Shape Modeling via Partial Matching. Master’s thesis, Carleton University, 2019.  
DOI: [10.22215/etd/2020-14050](https://doi.org/10.22215/etd/2020-14050)
5. Youqing Guan, Ke Zhang, and **Yanran Guan**. STCP: Simple Transaction Commit Protocol for Wireless Sensor Networks. In *Proceedings of the International Conference on Systems and Informatics*, pages 1022–1028, 2019.  
DOI: [10.1109/icsai48974.2019.9010100](https://doi.org/10.1109/icsai48974.2019.9010100)
6. **Yanran Guan**, Oliver van Kaick, and Youqing Guan. Research and Implementation of Triangle Mesh Parameterization Method Based on Barycentric Mapping (in Chinese). *Journal of Beijing University of Posts and Telecommunications*, 42(5):83–90, 2019.  
DOI: [10.13190/j.jbupt.2018-266](https://doi.org/10.13190/j.jbupt.2018-266)
7. **Yanran Guan** and Youqing Guan. Research and Application of Affine Transformation Based on OpenCV (in Chinese). *Computer Technology and Development*, 26(12):58–63, 2016.  
DOI: [10.3969/j.issn.1673-629x.2016.12.013](https://doi.org/10.3969/j.issn.1673-629x.2016.12.013)

## OTHER INTERESTS

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- **Literature:** I like reading and writing. I was the co-translator of the [Chinese edition of \*The Detour\*](#) (*De omweg* in Dutch and the English edition is known as *Ten White Geese*), novel by the Dutch novelist [Gerbrand Bakker](#) (translated from English to Chinese).
- **Chinese Calligraphy:** I am a member of the Jiangsu Association for Young Calligraphers and the Nanjing Association for Young Calligraphers.
- **Folk Music:** I play folk songs of Russia and Xinjiang, China.
- **Traveling:** I love traveling, especially long distance biking trips. I used to bike over 1000 kilometers from Shanghai to Xiamen in China and [here](#) is my blog post about this trip.