

## Wenxian Guo

Game Engine Developer in Tencent Games

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*To recruiters from China: feel free to reach me out for a Chinese version*

### Skillset

1. Familiar with **computer graphics**, especially physically-based simulation and anatomical modeling;
2. Familiar with numerical algebra, numerical methods for differential equations, numerical optimization, computational geometry;
3. Proficient with **Unity** scripting and editor tools development, have a basic understanding of **Unreal Engine 4**;
4. Have two-years' software development experience with **C++/Python**;
5. Familiar with image processing and classification, motion capture, 3D reconstruction and have hands-on experience;
6. Familiar with **Maya**, proficient with mesh processing and character rigging skinning;
7. Proficient with parallel programming on **supercomputers**, comfortable with working with Linux;

### Experience

#### Game Engine Developer in Morefun Studio Group

Tencent Games, China

Apr.2020—Present

- Focus on development of cloth simulators and its Unity-based production integration:
  1. Constructed cmake-based cross-platform pipeline for compilation;
  2. Wrote C++ APIs for Unity native call;
  3. Wrote pipeline tools for product integration.
- Made several technical presentations: “Position based dynamics for cloth simulation”, “Elementary English writing”, and “Anatomical based human modelling”.

#### Research Assistant in State Key Lab of CAD&CG

Zhejiang University, China

Sep.2019—Mar.2020

- Worked on physically-based hair simulation;

#### Research Assistant in Computer Graphics Lab

University of Utah, U.S.A.

Oct. 2018—Aug. 2019

- Involved in implementing algorithms to optimize and visualize personalized facial muscles from scanned data;
- Implemented an evaluator to quantify stereo camera calibration quality;
- **Publication:** *Solving for muscle blending using data*. Paper in Elsevier Computers & Graphics  
DOI: <https://doi.org/10.1016/j.cag.2020.09.005>

#### Research Assistant in Core Computing Group

National Hydrology Research Centre Canada

Apr. 2018—Sep. 2018

- Benchmarked high-performance simulation toolkit using *Intel VTune* and offered improvement suggestions;

#### Python Software Developer in PLM Software Group

Siemens Canada

Sep. 2017—Mar. 2018

- Improved and implemented new UI experience;
- Optimized regression test suite by implementing a monitor to guard the test;

#### **Research Assistant in Numerical Simulation Research Lab**

University of Saskatchewan, Canada

Sep. 2015—Nov. 2017

- Proved and implemented algorithms for more efficient time-integration of myocardial cell models;
- **Publication:** *Efficient Partitioned Numerical Integrators for Myocardial Cell Models*. Paper in Elsevier Applied Mathematics and Computation  
DOI: <https://doi.org/10.1016/j.amc.2019.124738>
- **Publication:** *Efficient Cardiac Simulations Using the Runge–Kutta–Chebyshev Method*. Master thesis, <https://harvest.usask.ca/handle/10388/8346>
- **Publication:** *Chaste: Cancer, Heart and Soft Tissue Environment*. Paper in Journal of Open Source Software  
DOI: <https://doi.org/10.21105/joss.01848>

#### **Education**

**M.Sc. in Computer Science**, University of Saskatchewan, Canada, Jul. 2018

Concentrations in high-performance scientific computing

Advisor: Dr. Raymond Spiteri

**B.Sc. in Computational Mathematics**, Jilin University, China, Jul. 2015

Major GPA: 85/100, ranking: 17%.

#### **Miscellaneous**

- I'm a huge fan of computer-animated movies;
- I was one of the original organizers of GAMES: Graphics And Mixed Environment Seminar, the *largest* non-profit academic seminar in China that gathers graphics researchers to exchange ideas and foster research collaborations;
- I conducted writing the *2015 Jilin University Apply Book*, a book aiming at helping students to apply to graduate schools and study abroad;
- For over four years, I served as a BBS moderator for gter.net, the Chinese *largest* BBS helping students to prepare for English test and to apply to foreign graduate schools.
- For over three years, I served as an organizer and a presenter for the *interdisciplinary salon at the Jilin University*, a discussion group for students to exchange their knowledge and thoughts.