

Wenxian Guo

Research assistant in State Key Lab of CAD&CG, Zhejiang University, China
email:wxguojlu@hotmail.com, github:<https://github.com/WXGopher>

Objective	Applying to 2020 fall Ph.D. admission in physically-based animation.						
Education	<p>M.Sc. in Computer Science, University of Saskatchewan, Canada, Nov. 2017 Concentrations in high-performance scientific computing Advisor: Dr. Raymond Spiteri</p> <p>B.Sc. in Computational Mathematics, Jilin University, China, Jul. 2015 Major GPA: 85/100, ranking: 17%.</p>						
Skillset	<table><tr><td><u>Languages:</u></td><td>Python, C++, MATLAB, L^AT_EX, Bash, Java</td></tr><tr><td><u>Softwares:</u></td><td>OpenMP, MPICH, Eigen, Chaste</td></tr><tr><td><u>Experience and knowledge:</u></td><td>numerical analysis (numerical ODEs, numerical PDEs, and numerical linear algebra), high-performance computing (programming on shared or distributed memory machines), physically-based animation (anatomical modelling and fluid mechanics), computer vision (image processing, camera calibration, and 3D reconstruction)</td></tr></table>	<u>Languages:</u>	Python, C++, MATLAB, L ^A T _E X, Bash, Java	<u>Softwares:</u>	OpenMP, MPICH, Eigen, Chaste	<u>Experience and knowledge:</u>	numerical analysis (numerical ODEs, numerical PDEs, and numerical linear algebra), high-performance computing (programming on shared or distributed memory machines), physically-based animation (anatomical modelling and fluid mechanics), computer vision (image processing, camera calibration, and 3D reconstruction)
<u>Languages:</u>	Python, C++, MATLAB, L ^A T _E X, Bash, Java						
<u>Softwares:</u>	OpenMP, MPICH, Eigen, Chaste						
<u>Experience and knowledge:</u>	numerical analysis (numerical ODEs, numerical PDEs, and numerical linear algebra), high-performance computing (programming on shared or distributed memory machines), physically-based animation (anatomical modelling and fluid mechanics), computer vision (image processing, camera calibration, and 3D reconstruction)						
Publications	<p><i>R. Spiteri, W. Guo, Efficient Partitioned Numerical Integrators for Myocardial Cell Models</i> Paper in Elsevier Applied Mathematics and Computation DOI: https://doi.org/10.1016/j.amc.2019.124738</p> <p><i>W. Guo, Efficient Cardiac Simulations Using the Runge–Kutta–Chebyshev Method</i> Master thesis, https://harvest.usask.ca/handle/10388/8346</p> <p><i>D. Dinev, W. Guo, P. Kadlec, L. Kavan, Discovering Personalized Muscle Anatomy</i> Paper submitted to Elsevier Computers & Graphics</p> <p><i>F. Cooper, et al., Chaste: Cancer, Heart and Soft Tissue Environment</i> Paper submitted to Journal of Open Source Software</p>						
Experience	<p>Research Assistant in State Key Lab of CAD&CG Zhejiang University, China Sep.2019—Present</p> <ul style="list-style-type: none">• Currently working on physically-based hair simulation (collaborating with Dr. Raymond (Yun) Fei);• Skills involved: C++ programming, physically-based animation;• Advisor: Dr. Youyi Zheng <p>Research Assistant in Computer Graphics Lab University of Utah, U.S.A. Oct. 2018—Aug. 2019</p> <ul style="list-style-type: none">• Involved in implementing algorithms to optimize and visualize personalized facial muscles from scanned data;• Implemented an evaluator to quantify stereo camera calibration quality;• Skills involved: C++ programming, physically-based anatomical modelling, stereo camera calibration, image processing;• Advisor: Dr. Ladislav Kavan.						

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;
- **Skills involved** high-performance computing, C++, performance test;
- **Advisor:** Dr. Raymond Spiteri.

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;
- **Skills involved:** Python, regression test.

Java Software Developer

Western Heritage Services, Inc. Canada

Aug. 2016—Jan. 2017

- Core developer of a commercial scheduling software;
- **Skills involved:** Java development;
- **Advisor:** Dr. Zhangbao (Michael) Ma.

Research Assistant in Numerical Simulation Research Lab

University of Saskatchewan, Canada

Sep. 2015—Nov. 2017

- Discovered, implemented, and proved algorithms for more efficient time-integration of myocardial cell models;
- **Skills involved:** C++, numerical analysis, high-performance computing;
- **Advisor:** Dr. Raymond Spiteri.

Teaching Assistant in Department of Computer Science

University of Saskatchewan, Canada

Sep. 2015—May. 2017

- Tutored several computer science courses: data structure and algorithms, mathematical logic, and artificial intelligence.

Fundings

- Research assistantship, Zhejiang University Sep. 2019—Present
- Research assistantship, University of Utah Oct. 2018—Aug. 2019
- MITACS-accelerate internship, MITACS Aug. 2016—Jan. 2017
- Research assistantship, University of Saskatchewan Sep. 2015—Nov. 2017
- Teaching assistantship, University of Saskatchewan Sep. 2015—May. 2017

Miscellaneous

- I'm a huge fan of computer-animated movies;
- I was one of the original organizers of GraphiCon, a discussion group for Chinese graphics researchers that lately turns into GAMES: Graphics And Mixed Environment Seminar;
- 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.