YAQI ZHANG

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OBJECTIVE

Summer intern in 2019

EDUCATION

University of Wisconsin-Madison *expected Dec. 2019*
Doctor of Philosophy in Mechanical Engineering Advisor: Prof. Vadim Shapiro
Master of Science in Computer Science
Master of Science in Mechanical Engineering
Minor in Mathematics
GPA: 3.98/4.00

Dalian University of Technology *June 2013*
Master of Engineering in Automotive Engineering Advisor: Prof. Xiangkui Zhang
GPA: 3.90/4.00

Dalian University of Technology *June 2011*
Bachelor of Engineering in Automotive Engineering Advisor: Prof. Xiangkui Zhang
Minor in Mathematics and Applied Mathematics
GPA: 3.86/4.00 (rank 1/26)

WORKING EXPERIENCE

Beijing Benz Automotive Co., Ltd. *July 2013 - July 2014*

· Conducted line balancing, process update of the chassis assembly line of Mercedes-Benz GLK model.

COURSES

Data Structures, Advanced Algorithms, Machine Learning, Pattern Recognition, Operating System, Computational Geometry, Computer Aided Geometric Design, Computer Networks, Linear Programming, Stochastic Programming, Nonlinear Optimization, High Performance Computing, Numerical Analysis, Computational Mathematics I/II, Computational Fluid Mechanics, Finite Element Methods

PROJECTS

Crawler of Cars.com [GitHub] *Mar. 2018 - May. 2018*

· Built tools to crawl and clean data from Cars.com, followed query analysis.

G-code Reader [GitHub] *Jan. 2018 - August. 2018*

· Built visualization and analysis tool for multiple types of G-codes.

Simulation of L-PBF using CUDA [GitHub] *Oct. 2017 - Jan. 2018*

· Implemented a discrete element method using CUDA to simulate the laser powder bed fusion process.

Ensemble Methods for Image Classification [GitHub] *Oct. 2017 - Dec. 2017*

· Implemented and compared the performance of different ensemble methods on image classification.

Web-Based Thermal Simulation of FDM [Webpage] *Sep. 2016 - Aug. 2017*

· Created web-based thermal simulation of FDM using JavaScript.

TEACHING

University of Wisconsin-Madison *Jan. 2018 - May. 2018*
Teaching Assistant, Responsibilities: Python Tutorial, Q&A in office hours

· Assist Professor Shapiro in his course **CS/ME 558: Computational Geometry.**

University of Wisconsin-Madison *Jan. 2015 - May 2015*
Teaching Assistant, Responsibilities: Teaching, Grading, Q&A in office hours

· Lead the lab session of the course **ME 331: Geometric Modeling for Engineering Applications.**

RESEARCH

FunCT: Function Classification and Testing *Feb. 2018 - Present*

· Developed theory, algorithms, and prototype system for explicitly representing and computing with functions of physical behavior; Created simulations and animations using Python.

Thermal Simulation of Powder Based Metal AM *Sept 2017 - Present*

· Developed a thermal simulation on the meso-scale (i.e. scan level) of powder based metal AM.
· Implemented the proposed thermal simulation using C++/CUDA.

Thermal Simulation of Fused Deposition Modeling (FDM) *May 2015 - Present*

· Proposed a new approach to thermal simulation of the FDM process, which is applied directly on as-manufactured geometry; Implemented the proposed thermal simulation using Java.

HONORS

- First Class Graduate Scholarship (top 10 %) *Sep. 2011 - June 2013*
- Bachelor of Engineering Honor Graduation (top 10%) *June 2011*
- Distinguished Performance in Scientific Innovation (top 1%) *Sep. 2009*
- 1st Prize in China Undergraduate Mathematical Contest in Modeling (top 5%) *2009*
- 1st Prize in Regional Mathematical Contest in Modeling in Northeast China (top 1%) *2009*
- First Class Scholarship, Academic Outstanding Student (ranked 1st) *Sep. 2008 - June 2011*

PUBLICATIONS

1. **Y. Zhang**, V. Shapiro, Linear-Time Thermal Simulation of As-Manufactured FDM Components, *Journal of Manufacturing Science and Engineering*, Vol. 140, 2018.
2. **Y. Zhang**, V. Shapiro, Linear Time Thermal Simulation of FDM Process, *ASME-IDETC 2017 Conference.*
3. **Y. Zhang**, W. Liu, F. Lu, X. Zhang, P. Hu, A New Damping Factor Algorithm Based on Line Search of the Local Minimum Point for Inverse Approach, *NUMIFORM 2013 Conference.*

SKILLS

- **Languages:** Python, Java, C, C++, JavaScript, Matlab, Julia, Bash R, Latex
- **Technologies:** 3D Modeling, CUDA, OpenMP, MPI, TensorFlow, Pandas, scikit-learn, NX