

Haocheng Liu

R&D ENGINEER

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Education

Carnegie Mellon University

M.S. IN MECHANICAL ENGINEERING

Pittsburgh, PA

Aug. 2014 - May. 2016

- Graduate research assistant, Visual Design and Engineering Lab
- Teaching assistant, Artificial Intelligent and Machine Learning

Shanghai Jiao Tong University

B.S. IN MECHANICAL ENGINEERING

Shanghai, China

Sep. 2010 - June. 2014

- Outstanding graduate of Shanghai Jiao Tong University
- Full NTU exchange scholarship from Singapore Temasek Foundation

Experience

Kitware Inc.

R&D ENGINEER

Clifton Park, NY

Jun. 2016 - Now

- Simulation Modeling ToolKit and Computational Model Builder framework
 - B
 - C
- Scientific visualization algorithms for Massively Threaded Architectures toolkit(VTK-m)
- Adaptable Input Output System Version 2(ADIOS2)
 - Parallelized the engine tests(BP, HDF5, ADIOS1, etc) and binding tests(Python, Fortran)
 - Extended FindGoogleTesting CMake module so that it can launch MPI tests and provide a better CMake integration

Visual Engineer and Engineering Lab@CMU

RESEARCH ASSISTANT

Pittsburgh, PA

Dec. 2014 - May. 2016

- Human Tumor Deformation Prediction - A NIH funded project
 - Based on fiducial marker info, make a prediction on tumor global deformation via Ansys APDL, Matlab to help surgeons improve operation accuracy
 - Built a software based on OpenFlipper, TetGen and optimization packages to enable I/O, tetrahedron volume mesh generation and visualization for medical usages

Skills

DevOps

Linux, Windows, Multi threading, Meta programming, Docker, GDB, Vagrant, AWS

Framework

Qt, Google Testing, Visual Studio, Spack, Ansys APDL, Meshlab

Software

Meshlab, Ansys WorkBench, Ansys APDL, Solid works, Tetgen

Contribution to Open source project

VTK, ParaView, SMTK, CMB, ADIOS2, Spack, CMake, Raspberry Pi

Programming

C++, CMake, Python, Git, Bash, LaTeX, Java, Fortran