

# Lei ZHANG

Github: <https://github.com/lanzhige>

Linkedin: <https://www.linkedin.com/in/lei-zhang-a95b63148/>

Email : [zleizju@gmail.com](mailto:zleizju@gmail.com)

Mobile : +1-480-467-8661

## EDUCATION

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- **Zhejiang University, China** Hangzhou, China  
*Bachelor of Science in Computer Science* Sept. 2012 – July. 2016
- **Arizona State University, United States** Arizona, US  
*Master of Science in Software Engineering GPA 3.6/4.0* Aug. 2017 – May. 2019(expected)

## HONOR

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- **National Olympic of Informatics Competition** Hebei, China  
*1st Price* 2011

## EXPERIENCE

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- **VADER Lab** Arizona State University  
*Graduate Research Assistant* Aug 2017 - present
  - **Mean Radiant Temperature(MRT) and Physiologically Equivalent Temperature(PET) Calculation:**  
<https://github.com/lanzhige/calculateMRT>
    - \* Calculate the sky view factors(SVF).
    - \* Calculate the MRT and PET values base on SVF, personal body properties, spacial and data status.
    - \* Find the thermal comfort routing.
  - **Fisheye Data of Street View:**  
<https://github.com/lanzhige/fisheye>
    - \* Generate fisheye images using OpenGL based on street view images from Google Map.
    - \* Get segmented fisheye compressed and calculated.
  - **Ecological Protected Area Data Processing:**  
<https://github.com/lanzhige/eco-region>
    - \* Calculate economic values based on the distance to protected areas.
    - \* Fast process data of 30\*30 meter square of the whole US.
- **SeSaMe Lab** National University of Singapore  
*Internship Researcher* Aug 2016 - Jun 2017
  - **Trajectory Trend Visualization:**  
[https://github.com/lanzhige/serika\\_trajectory\\_visualization](https://github.com/lanzhige/serika_trajectory_visualization)
    - \* Implement a trajectory visualization system which deals with queries on the heat map, radar map, trajectories traces, and traffic on intersections and visualization on a website.
    - \* Develop a front-end using a heat map, radar chart, and rewrite chord diagrams of D3.js to visualize the result.
    - \* Implement back-end server using CUDA for high speed data processing.
- **CAD&CG National Key Lab** Zhejiang University, China  
*Student Research Assistant* May 2015 - June 2016
  - **3D Meteorological Data Visualization System:**
    - \* An OpenGL based visualization system to display meteorological data(cloud, wind, temperature) in a 3-dimension way like the Google Earth.
    - \* Debugged through over 100,000 lines of codes.
  - **High-Resolution Meteorological Data Visualization System:**
    - \* A system for displaying meteorological data on a multi-screen and high-resolution hardware cluster.
    - \* Solved the synchrony problem among the displays and refactored the meteorological data visualization code.

## COURSE PROJECTS(OTHERS ON GIT)

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- **MIPS Assembler (Fall Semester 2014):**  
A command line assembler to translate a MIPS-like assembly language to machine codes. It's developed for assembling the following system on an FPGA.
- **FPGA Chinese Character Display System Using Self-designed Instruction Set (Fall Semester 2014):**  
Self-designed instruction set (imitate the MIPS instruction set) and a logic circuit. Self-designed memory structure and file system. Implemented a system to display Chinese characters. 16 bits are used as the smallest unit just like 8 bits as a byte in a conventional system.

## PROGRAMMING SKILLS

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- **Languages:** C++, C, Java, JavaScript, HTML, CSS, Python, GLSL, CUDA
- **Technologies:** OpenGL, MYSQL and MongoDB, QT, Bootstrap framework, Doxygen, Bugzilla