

# Zhongyuan Yu

<https://yuffff.github.io/>  
yzhongyuanfff@gmail.com | +49-152-0752-3737



## RESEARCH FIELDS

Mathematical Optimization, Visualization,  
Realistic Rendering  
Computer Vision, Machine Learning

## PROGRAMMING SKILLS

• c++11 • cmake • visual studio  
• qt • fltk • nanogui

## LANGUAGES

• English: SET-6  
• German: TestDaf 4/4/4/4

## EDUCATION

**TECHNICAL UNIVERSITY OF DRESDEN** | MASTER OF COMPUTER  
SCIENCE

Oct. 2018 –Present | Dresden, Germany

**TUDIAS** | GERMAN LEARNING

Oct. 2017 –Aug. 2018 | Dresden, Germany

**SHANDONG UNIVERSITY** | BACHELOR OF COMPUTER SCIENCE

Oct. 2013 –Aug. 2017 | Jinan, China

**CAPITAL NORMAL UNIVERSITY HIGH SCHOOL** |

Oct. 2010 –Aug. 2013 | Beijing, China

## PROFESSIONAL EXPERIENCE

**HACKATHON 2019 DRESDEN** |

The idea was understanding and classification of learning materials with the help of Azure Cloud Computing.

**SUPERVOXEL SEGMENTATION OF BRAIN IMAGE BASED ON  
BILATERAL GEODESIC DISTANCE** | not published

The origin work was on 2d. It was a 3d implementation of this paper: Superpixels by Bilateral Geodesic Distance. doi:10.1109/TCSVT.2016.2589781. Not finished because the limited time for research at that moment.

**OPTIMIZATION OF THE SPARK FRAMEWORK FOR DEEP  
LEARNING APPLICATIONS USING TENSORFLOW** | bachelor thesis

I implemented a scheduling algorithm for deep learning tasks on computing clusters. It was based on the distributed computing framework Spark and Apache Hadoop.

**AN IMPROVED DENSITY-BASED CLUSTERING ALGORITHM  
WITH GENETIC ALGORITHM** | not published

Improved the performance of clustering with the benefits of genetic algorithm.

**A VARIANT TO DIJKSTRA ALGORITHM FOR TRANSIT ROUTING  
AND ITS 2D VISUALIZATION** | implemented for the course "Algorithms  
and Data Structures"

It was achieved by making use of dynamic programming. I developed the software with java programming language, based on the transit routing data in Jinan.

**A TOWER DEFENSE CROWDGAME FOR MACHINE LEARNING** |

By playing the game, a segmentation of the given map is "automatically" generated.

**A RAPID MODEL DESIGNING SOFTWARE FOR 3D PRINTING** |

Similar to the game "Minecraft", I developed a game-like software in which one can generate some simple scene and export as obj file. After that, the model can be transformed to the stl file format with python automatically on server side.

**HYPERLINK-BASED INFORMATION GATHERING SYSTEM** |

The idea was to collect tutorials and some good online materials for language learning efficiently without downloading. For further usage, natural language processing can be involved.