

RUI-CHENG WANG

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EDUCATION

School of Computer Science and Technology | USTC

Aug. 2018 – June. 2019
Anhui, China

School of Data Science | USTC

Aug. 2019 – June 2022
Anhui, China

MAJOR & EXPECTED DEGREE: BACHELOR OF DATA SCIENCE

- **Major GPA:** 4.06/4.3
- **Overall GPA:** 3.92/4.3
- **Highlight Courses:** Computer Graphics: 99/100, Introduction to Computer System: 100/100, Mathematical Modeling: A+

EXPERIENCE

Graphics & Geometric Computing Laboratory (GCL) at USTC

May 2020 – Present
Anhui, China

STUDENT RESEARCH ASSISTANT WITH PORF. LI-GANG LIU

- I am working on real-time rendering of curved ray in Riemannian geometry.
- Currently I am also doing survey on differentiable rendering, differentiable simulation and geometric deep learning.

Quantitative Investment Department of Yingyang Asset Management Co.,Ltd.

Oct. 2020 – Present
Anhui, China

QUANTITATIVE INVESTMENT INTERN

- Stock exchange data analysis with modern machine learning approaches.

PROJECTS

Non-Euclidean Engine

[\[Code\]](#) [\[Video\]](#)

CO-DEVELOPER

- Our final project in Computer Graphics course. Advisor: Prof. Li-Gang Liu.
- Based on Riemannian geometry theories, we explored and visualized the immersive view in non-Euclidean geometry(eg. 3D hypersphere, hyperbolic space, blackhole). The engine could run either in realtime mode (OpenGL) or ray tracing mode.

DiffNum - A Lightweight Differentiable Programing Library

[\[Code\]](#)

DEVELOPER

- DiffNum performs autogradng via simple forward propagation methods. To use it, you only need to substitute native float and double types with DiffNum types. Thus it is flexible and efficient in lightweight usage. By using it recursively, you can obtain higher order derivatives. It is also supported in CUDA kernels.

Image Segmentation Enhanced Style Transfer

[\[Code\]](#)

CO-DEVELOPER

- Our final project in Computer Vision course. Advisor: Prof. Yang Cao.
- We incorporated Image Segmentation into the process of Style Transfer, which effciently solved the problem that different elements (e.g. background and animal) interfered with each other when transferring horses to zebras.

MathSLib - A Computer Algebra System Library

[\[Code\]](#)

CO-DEVELOPER

- It is a C++ library for a symbolic computing and simple scientific computing. It can simplify and evaluate symbolic expression. The *rules* of evaluation can be easily extended through the *match-replace* algorithm. The library also offers an interpreter converting text expressions into STD functions.

HONORS AND AWARDS

First Price in Contemporary Undergraduate Mathematical Contest in Modeling (CUMCM) The first prizes accounted for 0.75% in total. (295 out of 39293)	Fall 2019
CCF Big Data & Computing Intelligence Contest Team account ranked 6th, personal account ranked 32nd out of 2272 teams.	Fall 2019
Wang Lao-Ji Scholarship (Funding of CNY 5,000) Awarded to students with outstanding comprehensive abilities.	Fall 2020 USTC
Outstanding Student Scholarship Silver Award (Funding of CNY 2,000) Awarded to students with excellent achievements	Fall 2019 USTC

EXTRACURRICULAR ACTIVITY

President of Student Union of School of Computer Science and Technology	Fall 2020 – Present USTC
Volunteer in Open Week of Science and Technology	May 2019 USTC
Volunteer in the Computer Science Winter Camp of The Talented Young Children and Youth Science Center of China (CYSC). Sun Yat-Sen University	Jan. 2019

SKILLS

Programming

- C/C++ (Eigen, OpenCV, OpenGL, CUDA)
- Python (NumPy, SciPy, Matplotlib, Pandas, Keras)
- C#
- Mathematica