PENGYUN QIU

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EDUCATION

Nanjing University of Science and Technology   **09/2018 – 06/2022**

BS in Information and Computational Science (Elite Class) | **Overall GPA:** 86.65/100 (3.59/4.00)

Honors and Awards:

- Third-class Scholarship, 2020-2021 Spring Semester
- Third-class Scholarship, 2020-2021 Fall Semester
- Second-class Scholarship, 2019-2020 Spring Semester
- Second-class Scholarship, 2019-2020 Fall Semester
- First-class Scholarship,2021-2022 Fall Semester
- Second Prize, NUST Mathematical Modeling Competition in September 2020

PUBLICATIONS

- "Modeling Wireframe Meshes with Discrete Equivalence Classes" is under review by ACM Transactions on Graphics
- "Urban Fabric Generation: A comparative analysis of multiple vector field methods." 721-730. 10.52842/conf.ecaade.2023.1.721.
- "Masonry Shell Structures with Discrete Equivalence Classes." SIGGRAPH 2023 (journal track), ACM Transactions on Graphics (TOG) 42 (2023): 1 - 12.

PROFESSIONAL EXPERIENCE

Singapore University of Technology and Design   **10/2022 – 03/2024**

Research Assistant to Professor Peng Song

- Contributed to two geometry related projects and one parcel subdivision project.

Shanghai Sunlight IT Consulting CO. Ltd.   **03/2022 – 05/2022**

Database Development Engineer Intern

- Maintained the corporate data platform and updated the data warehouse platform.

RESEARCH PROJECTS

Modeling Wireframe Meshes with Discrete Equivalence Classes   **02/2023 – 08/2023**

- Modelled and fabricated wireframe mesh structures with reusable rods and nodes from given input meshes.

Urban Fabric Generation   **01/2023 – 03/2023**

- Mainly involved in the plot division and explained the relevant mathematical theory for the use of vector field.

Masonry Shell Structures with Discrete Equivalence Classes   **11/2022 – 01/2023**

- Attacked the emerging problem of modeling freeform shell structures where the shell elements fall into a set of discrete equivalence classes.

The Application of Radial Basis Function (RBF) in Solving Partial Differential Equations on the Sphere   **11/2021 – 05/2022**

- Applied the interpolation method of RBF to solve the Allen-Cahn equations on the sphere, and explored the changes in the mass and energy of the equations. Realized numerical algorithm for RBF-based equation solution and drew mass-change curves as well as energy-change curves.

The Fusion of Hyperspectral Imagery and Multispectral Imagery Enabled by Tensor's Manifold Structure   **04/2020 – 09/2021**

- Led a team of four to fuse hyperspectral and multispectral imagery as a way of enhancing spatial and spectral resolution. Extracted the global features of two types of imagery using tensor's modeling patterns, and effectively conserved the local features by tapping into the complementarity of these two types of imagery.

SKILLSET

Languages: Mandarin (native), English (fluent)

Technical Skills: C++ (proficient), MATLAB (proficient), SQL (proficient), Autodesk 3ds Max (familiar), Rhino 3D (familiar), AutoCAD (familiar), SPSS (familiar)
Core competencies: graphics programming, mathematical modelling and computer-aided design