Shikang Wen

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Shanghai

Research Interests

- Building environment optimization
- Machine learning in the building environment
- Simulation of urban-scale

EDUCATION EXPERIENCE

Bachelor of Architecture, Shanghai Jiao Tong University 2018.09 – 2023.06 (Expected)
Overall GPA: 85.9

ACADEMIC PUBLICATIONS

1. **S. Wen**, X. Hu, G. Hua, P. Xue, and D. Lai, Comparing the Performance of Four Shading Strategies Based on a Multi-Objective Genetic Algorithm: A Case Study in a University Library, Journal of Building Engineering (2022, Accepted)
2. **S. Wen**, Z. Zhang, and D. Lai, "Luminance map reconstruction: A model by learning to inverse HDR pipeline", 2022. (manuscript in preparation)

RESEARCH EXPERIENCE

1. The optimization of Building daylit space Mar 2021 - Jun 2022

An academic project concerning the optimization of building daylit space, supervised by Prof. Dr. Dayi Lai. The project aims to design a framework to fill the gap that the different shading strategies are difficult to compare. A performance "curve" based on the Pareto set generated by a multi-objective genetic algorithm can be applied to the framework system. Developed in-depth knowledge of searching the literature, lighting simulation tools, optimization method, and academic writing.

Contribution: Conceptualization, Data curation, Methodology, Software, Visualization, Writing – original draft.

2. Real-time detection in daylight environment Mar 2022 - Oct 2022

An undergraduate project supervised by Prof. Dr. Dayi Lai and Prof. Dr. Ziqi Zhang, which develops a machine learning method to rebuild the luminance map by a single exposure image. Mastered machine-learning methods, and high dynamic range photo analysis. The research paper for this project is being prepared for submission to an academic journal.

Contribution: Conceptualization, Data curation, Methodology, Software, Visualization, Writing – original draft.

WORK EXPERIENCE

My previous experience in architectural design can help me determine whether the optimization of the built environment has the potential to be applied to future architectural design.

Shanghai Liben Architectural Design Office Dec 2020 - Feb 2021
Intern
As an assistant architect, assisted the lead designer with the design of the school. Completed the interior design of the cafeteria and dormitory during the internship.

East China Architectural Design And Research Institute Jul 2021 - Sep 2021
Intern
Took part in two projects: 1) Urumqi Airport Terminal Building Design; 2) Huhehaote Airport Terminal Design. I completed the design of the corridor bridge from the terminal building to the parking lot with the help of my lead instructor.

CROSS-DISCIPLINARY EXPERIENCE

I participated in several courses and projects in other disciplines. Some examples are as follows:

1. Mobile robotics-related courses (Mobile robotics and Autonomous positioning and navigation algorithm for mobile robots): In these courses, I finished a project about simultaneous localization and mapping (SLAM).
2. Machine learning-related courses (Deep learning practice based on the Huawei AI platform): In this program, I systematically learn about deep learning algorithms in computer vision and natural language processing, and received a final course grade of 89. (Top 15%)

HONORS & AWARDS

National Inspirational Scholarship	2022/09
Shanghai Jiao Tong University Scholarship	2021/11
Third Prize in Shanghai Jiao Tong University Structure Competition	2020/12
First Prize in the 2019 Li Zhengdao Science and Art Competition	2019/11
Second Prize in Tongji University Wooden Structure Competition	2019/05

PROFESSIONAL SERVICE

External reviewer Journal of Building Engineering (since 2022)

PROGRAM LANGUAGES

- C/C++
- Python
- Linux/shell
- Grasshopper

LANGUAGES

- English
- Chinese