

# Wang Zirui

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## EDUCATION

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Dalian University of Technology

09/2021 – Present

- **Major:** Digital Media and Technology.
- **GPA:** 3.66
- **Rank:** 22/115
- **Core Courses:** *Higher Mathematics (95), Advanced Programming (93), Data Structures and Algorithms (95), Principles of Computer Composition (91), Operating Systems (93), Databases (93).*

## RESEARCH EXPERIENCE

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**Project: PromptFusion: Harmonized Semantic Prompt Learning for Infrared and Visible Image Fusion (Submitted to JAS)** 03/2024-05/2024

*Project Leader*

- In charge of writing model code, such as Contourlet autoencoder, Semantic Constraint module.
- Tuned parameters and models on the server to achieve the best training results, and organized experimental data to create tables.
- Handled most of the writing tasks for the paper, and created the main figure, pipeline, model, and other images.

**Project: Design and Implementation of Video Super-Resolution Restoration System (Major Creation, Provincial Level)** 4/2023 – 4/2024

*Research Leader*

- Developed a video super-resolution algorithm using RNN, featuring a filtering module to improve robustness and clarity in noisy environments.
- Executed model training, data testing, and scripted server-OSS synchronization for efficient super-resolution processing.
- Developed a functional WeChat mini-program with an interactive interface for user video uploads.

**Project: Implementation of Image Retrieval System** 02/2024– 05/2024

*Principal Researcher*

- Penned the final paper detailing algorithms and model structure for the image retrieval system.
- Suggested and refined the use of Vision-transformer for the image retrieval system's algorithmic foundation.
- Completed the front-end development for the image retrieval system's user interface.

**Project: A Unified Solution Model for Multimodal Image Fusion Based on Diffusion Model Priors**

*Principal Researcher*

- Developed video fusion code and algorithms, utilizing U-Net for temporal information between frames and integrating it with an attention module.
- Targeting TPAMI (IEEE Transactions on Pattern Analysis and Machine Intelligence), a top-tier journal in computer science with an IF of 26.7.

## WORK EXPERIENCE

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**Involvement: Psychology Association**

09/2022-09/2023

*Deputy Minister*

- Managed the campus psychological drama competition, including planning, participant registration, and team scoring.
- Authored articles for the Psychology Association's WeChat account and orchestrated the sign language competition's format and scheduling.

## HONORS & AWARDS

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Outstanding Academic Scholarship

## **SOFTWARE & LANGUAGE SKILLS**

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- Visual Studio, Anaconda, PyCharm, Matlab, PyTorch, LaTeX
- Languages: Python, C, C++, JavaScript
- English ability: TOFEL 92 GRE 321