

Jiamin Cheng

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Education

Macau University of Science and Technology

Master in Applied Mathematics and Data Science

Mentor: Prof. Zhanchuan Cai

Macau S.A.R., China

Sep. 2022 - Present

China Agricultural University

Bachelor of Science

Major: Data Science and Big Data Technology

Yantai, China

Sep. 2020 - Jun. 2022

Shandong University

Bachelor of Engineering

Major: Marine Resources Development Technology

Weihai, China

Sep. 2015 - Jun. 2019

Research interests

Image enhancement, Computer vision, Speech synthesis.

Research experience

Underwater Image Enhancement Based on Retinex Decomposition

Supervisor: Prof. Zhanchuan Cai, MUST

Macau S.A.R., China

Sep. 2022 - Present

- Designed a retinex-based method for single underwater image enhancement to solve the quality degradation problems of underwater images, such as color casts, blurring details, and low contrast
- Proposed a new color correction strategy to remove color casts (bluish or greenish) and restore underwater images to genuine color
- The qualitative and quantitative evaluation of the proposed method show superiority in terms of naturalness, visibility, and preservation of edges and texture

Detection of Fake Images Generated by Text-to-Image Models

Supervisor: Prof. Jinyu Tian, MUST

Macau S.A.R., China

Mar. 2023 - Jun. 2023

- Extracted unique features from each image generation model, thereby identifying the unique fingerprints that different models leave behind in the fake images they generate
- Designed a fake image classifier to differentiate generated fake images from real images

Style Transfer for Voice Conversion With Non-Parallel Training Data

Supervisor: Prof. Zhanchuan Cai, MUST

Macau S.A.R., China

Aug. 2023 - Present

- Proposed a style transfer system to transfer the speaking style of a source speaker to a target speaker who does not possess that style

Peach Disease Detection Based on Deep Learning

Bachelor Thesis Research Project, Supervisor: Prof. Lu Jia, CAU

Yantai, China

Jan. 2022 - Jun. 2022

- Designed a DenseNet-based deep learning model for peach disease detection, which achieved a maximum accuracy of 96.08%
- Created a peach disease detection dataset, consisting of 532 images

Skills

Programming

MATLAB, Python.

Languages

English, Chinese.

Honors

First Prize of Chinese College Mathematics Competition

Dec. 2021

Third Class Scholarship for Academic Excellence

Dec. 2021