# *Jiamin Cheng*

**Email:** jiamincheng.k@gmail.com
**TEL:** +853 6859 4039

## Education

**Macau University of Science and Technology** *Macau S.A.R., China*
*Master in Applied Mathematics and Data Science* *Sep. 2022 - Present*
*Mentor: Prof. Zhanchuan Cai*

**China Agricultural University** *Yantai, China*
*985 Project, Bachelor of Science* *Sep. 2020 - Jun. 2022*
*Major: Data Science and Big Data Technology*

**Shandong University** *Weihai, China*
*985 Project, Bachelor of Engineering* *Sep. 2015 - Jun. 2019*
*Major: Marine Resources Development Technology*

## Research interests

Image enhancement, Computer vision, Speech synthesis.

## Research experience

**Underwater Image Enhancement Based on Retinex Decomposition** *Macau S.A.R., China*
*Supervisor: Prof. Zhanchuan Cai, MUST* *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** *Macau S.A.R., China*
*Supervisor: Prof. Jinyu Tian, MUST* *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
- Used a binary detector to differentiate generated fake images from real images

**SVC Practice: Singing Voice Conversion Model** *Macau S.A.R., China*
*Team leader, MUST* *May 2023 - Aug. 2023*

- Compared the difference between TTS and SVC
- Used a SVC model to convert a song sang by a source singer to the voice of a target singer

**Peach Disease Detection Based on Deep Learning** *Yantai, China*
*Bachelor Thesis Research Project, Supervisor: Prof. Lu Jia, CAU* *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*