## Chaowei LIU

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## **EDUCATION**

• National University of Singapore

08/2022-01/2024

Master of Computer Engineering (Machine Intelligence and Applications)

Singapore

- ➤ GPA:4.67/5:
- Join <u>Learning and vision lab</u>

## • National University of Singapore-NUS(Suzhou) Research Institute

09/2021-05/2022

"3+1+1" Educational Framework

SuZhou, China

- Major in Electrical and Computer Engineering
- > GPA:90.25/100; Outstanding Graduation Project(10%)

## • Harbin Institute of Technology, Shenzhen (HITsz)

09/2018-06/2022

Bachelor of Science in Communication Engineering

Shenzhen, China

➤ GPA:85.1/100; Outstanding Graduates(10%),Second Class Honor Scholarship(15%), Excellent Student Honor

## **PUBLICATION**

On the feasibility of specialized ability stealing for large language code mode (ICSE2024, fourth author)

Lens-to-Lens Bokeh Effect Transformation. NTIRE 2023 Challenge Report (CVPR2023W, Challenge Report)

MetalSP: Efficient RAW to sRGB Mappings with Merely 1M Parameters (Under review on AAAI24, Co-first author)

One paper for multi-degradation issues in document images would be submitted to CVPR2024 (first author)

# RESEARCH/PROJECT EXPERIENCE

## • Learning Robust Enhancer in low-level vision

NUS master project instructed by Professor Xinchao Wang

09/2022-04/2023

- Singapore
- > Trying to apply diffusion model in low-level vision tasks (AWB, RAWtoRGB)
- Trying to apply MobileVit in low-level vision tasks (RAWtoRGB) (Under review on AAAI24)
- Attending CVPR NTIRE2023 Bokeh Effect Transformation(Leader, Third Place)

#### • Research on data augmentation strategy of graph neural network

Final Year Project

**Outstanding Graduation Project** (NUS Suzhou Research Institute) instructed by Professor <u>Xinchao Wang</u>

09/2021-05/2022

Su Zhou, China

- > Propose a new data augmentation strategy of graph neural network based on changing feature matrix.
- > Propose a hyperparameter search algorithm based on reinforcement learning which outperform optuna.
- Achieve up to 7% absolute F1 performance improvements across architectures and datasets.

## Research on the Mura Defect Inspection of AMOLED Screen

Act as core member, College Students' Innovation & Entrepreneurship Project (CSIEP)

Won National First Honor Prize in CSIEP instructed by Professor Xiao Junjun

Shenzhen, China

09/2019-09/2021

- > Utilized deep learning network yolo-v3 to successfully train Mura defect inspection network
- Achieve high accuracy of 80%, thus providing support for the production of screen automation.
- Smart Garbage Car

Act as core member, Term Project

The First Project Approval Prize of Harbin Institute of Technology, Shenzhen instructed by Professor Li Wei

Shenzhen, China

11/2018-12/2019

- > Programmed MCU driving code based on Arduino language and designed a robotic arm model to grab and lift the rubbish bin by using Solidworks.
- Compiling all functions in the tested APP and completed automatic and remote control.

# INTERNSHIP EXPERIECE

## • HUAWEI TECHNOLOGIES CO, LTD

7/2023-now

• Algorithm Researcher

Shanghai, China

- ➤ Conducted research on multi-degradation issues in document images, developing a model that outperforms existing solutions in both industrial settings (Xiaomi, Quark) and academic research.
- Filed one patent related to the innovative model, and a research paper is currently being prepared for submission to CVPR 2024.

#### • DIDI TRAVEL TECHNOLOGIES CO, LTD

2/2022-4/2022

Algorithm Engineer

BeiJing,China

- According to the driver's voice to text data, using textcnn and Bert model, to construct the suspected crime alarm model.
- ➤ Compared with the original model of the company (XGBT). My model's accuracy increased by 20%, the regression rate increased by 10%, and the influence area decreased.
- Research frontier papers, organization sharing.

## • HUAWEI TECHNOLOGIES CO, LTD (SHENZHEN)

6/2021-8/2021

Engineer

Shenzhen, China

- > Be responsible for completing the software construction and maintenance of the supply chain system;
- > Optimizing API performance problems in database problems.

# PERSONAL SKILLS

Python, C++,C and Java Language, Pytorch, DGL, MATLAB, Latex