Mingqian Liao

SUSTech, China

📱 (+1)510-365-1902 | ✉ liaomq328@gmail.com | 🔘 github.com/Leo-Adventure

Education ─────────────────────────────────

Southern University of Science and Technology *Shenzhen, China*

Turing Class, Senior Undergraduate *Sept 2020 - June 2024*

- Major / GPA: Computer Science; 3.74/4 (90.42)
- 2023 SUSTech Outstanding Student Scholarships **First Prize**
- 2022 ASC Student Supercompute Challenge **First Prize**
- 2022 APAC HPC-AI Competition - **Second Place**

University of California, Berkeley *Berkeley, USA*

Visiting Student *Jan 2023 - June 2023*

- Main Subject: Deep Learning and Computer Vision
- **Courses:** Machine Learning(CS189), Deep Learning(CS182), Graduate Computer Vision(CS280), Operating System(CS162)

Johns Hopkins University *Baltimore, United States*

Undergraduate Research Assistant *Augu 2020 - Febr 2024*

- Supervisor: Dr. Vishal M. Patel
- Research Focus: Thermal-Visible Image Fusion and Thermal-NeRF

Research Experience ───────────────────────────

Johns Hopkins University *Baltimore, United States*

Undergraduate Research Assistant *Aug 2023 - Feb 2024*

- Collect the thermal and visible NeRF dataset
- Build model for image fusion
- Build model for low light NeRF

Southern Universtiy of Science and Technology *Shenzhen, China*

Research Student *Jul 2021 - Current*

- Build a virtual surgical instrument and fundus database
- Conduct a series of experiments and optimizations to migrate the model in the self-driving depth prediction scene into the surgical scene
- Design a model to output the corresponding depth video from the input fundus surgery video

Publications ─────────────────────────────

- **2023/10** Jiacong Xu*, **Mingqian Liao***, Vishal Patel (2023, October). *Thermal-NeRF: Looking into the Darkness*. Under Review.

- **2023/09** Jiang Liu, Xiaoqing Zhang, Yan Hu, et al., and **Mingqian Liao**. *Introduction to Artificial Intelligence*. Chemical Industry Press, Beijing.

Honors & Awards ────────────────────────────

Year	Award	Location
2023	**The 1st prize**, SUSTech Outstanding Student Scholarship	*SUSTech*
2023	**Meritorious Winner**, MCM/ICM	*COMAP*
2023	**Distinguished Student Assistant**, Student Assistant in Computer Network	*SUSTech*
2022	**"Intelligent Pedestal" Industry-Education Integration Collaborative Education Project Scholarship**, Excel in Machine Learning course	*Shenzhen*
2022	**"Intelligent Pedestal" Industry-Education Integration Collaborative Education Project Scholarship**, Excel in C/C++ Program Design course	*Shenzhen*
2022	**First Prize**, ASC Student Supercompute Challenge	*Asia Supercomputer Community*
2022	**Second Place**, 2022 APAC HPC-AI Competition	*Singapore*
2022	**Special Prize**, The 9th "League Cup" Undergraduate English Writing Contest	*Guangdong Province*
2022	**The 2nd prize**, SUSTech Outstanding Student Scholarship	*SUSTech*
2021	**The 3rd prize**, SUSTech Outstanding Student Scholarship	*SUSTech*
2020	**Special Prize**, Freshman Scholarship, ranked 2/1097 among all the freshmen	*SUSTech*

Competitions and Projects

Digging deeper into the value of Wordle through time series analysis and natural language processing

China

MCM 2023

Feb 2023

- Build time series models to explain changes in the number of active Wordel players and predict future trends
- Establish a probabilistic regression model of the distribution of guessing times to analyze the difficulty of Wordle games
- Use clustering algorithms to grade the difficulty of the game, and combine natural language processing techniques to build a classification model from the puzzle to infer the difficulty rating of the game

Deep-Learning-Based DNA Fast Decoding

Singapore

HPC-AI Advisory Council, National Supercomputing Centre (NSCC) Singapore, and National Computational Infrastructure (NCI) Australia

Jan 2022 - Nov 2022

- Design a model to predict transcription factor's binding site based on the input DNA sequence and DNase-sequence
- Improve the model using the key part of UNet and Leopard and use horovod to train the network distributedly

Neural Network for self-driving data augmentation

Shenzhen, China

Southern University of Science and Technology

Nov 2022 - Jan 2022

- Augment the automated driving dataset using the Stable Diffusion model as well as the Textual Inversion model
- Conduct experiments on the prompt to guide the direction of augmentation, and on the sampling method to augment

Intelligent identification of ancient glass objects given statistical machine semester under small sample size

China

CUMCM 2022

Sep 2022

- Build a cardinality test and decision tree to explore the relationship between the weather ability of ancient glass objects and their properties
- Establish a probabilistic regression model of the distribution of guessing times to analyze the difficulty of Wordle games
- Identifying Significant Changes in Composition of Lead-Barium Glass and High Potassium Glass Before and After Weathering Using KS Test
- Construct regression models using semi-supervised learning to infer the chemical composition of a given glass artifact before weathering

Teaching Experience

Southern University of Science and Technology

Shenzhen, China

Student Assistant in CS305 Computer Network course

Sep 2022 - Feb 2023

- Checking Lab exercises, and answering questions from students in class and after class
- Designing and grading Assignments for the course

————————————————————————

Southern University of Science and Technology

Shenzhen, China

Distinguished Student Assistant in CS205 C/C++ Program Design course

Feb 2022 - Feb 2023

- Checking Lab exercises, and answering questions from students in class and after class.
- Designing and grading Assignments for the course

Extracurricular Experience

Shuren College Media Studio of SUSTech

Shenzhen, China

Secretary

Sep 2020 - Sep 2022

- Organize events and produce promotions

Volunteer Federation of SUSTech

Shenzhen, China

Office Member

Sep 2020 - Sep 2021

- liaise with other departments and organize volunteer activities

Language Ability

English   TOEFL score 107 (Reading 28, Listening 29, Writing 27, Speaking 23)

Skills

Programming   Python(Numpy, Pytorch), Linux, C/C++, Java, SQL, Vue2, Git, Matlab

Soft Skills   Teamwork, Time Management, Documentation, Presentation