

Zhongxiao (Sherry) Cong

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EDUCATION

ShanghaiTech University

09/2020 – 06/2024 | Shanghai, China

B.Eng. Candidate, Computer Science and Technology

- GPA 3.87/4.0; Rank: 6/247 | GPA (Last two semesters): 3.95/4.0 | GPA (Major): 3.91/4.0
- Selected courses: Artificial Intelligence (A+), Numerical Optimization (A+), Probability and Statistics (A+), Mathematical Analysis (A+)

Massachusetts Institute of Technology

02/2023 – 05/2023 | Cambridge, MA

Exchange Student, Computer Science

- GPA 5.0/5.0
- Courses: Advances in Computer Vision, Matrix Methods

RESEARCH INTEREST

My research interests are in the area of Computer Vision and Deep Learning with a focus on constructing robust and secure predictive models.

PUBLICATIONS

Dynamic Neural Fields for Learning Atlases of 4D Fetal MRI Time-series

Zeen Chi*, Zhongxiao Cong*, Clinton J. Wang, Yingcheng Liu, Esra Abaci Turk, P. Ellen Grant, S. Mazdak Abulnaga, Polina Golland, Neel Dey (* Equal contribution)

Medical Imaging Meets NeurIPS (NeurIPS Workshop) 2023

EXPERIENCE

PLUS Lab, ShanghaiTech University

09/2023 – present | Shanghai, China

Undergraduate researcher advised by Prof. Xuming He

• Domain Robust Open-Vocabulary Semantic Segmentation

- Discovered the deficiency of current models in generalization by the results of a significant decrease in mIoU when testing the SOTA open-vocabulary segmentation model on datasets with domain gaps from the training data
- Verified that an image can be transformed to the target domain while retaining semantic information when text-based domain variations are added to the feature space of the image at a certain ratio
- Currently incorporating this design into the current model so as to increase the diversity of the source data

Medical Vision Group, MIT CSAIL

03/2023 – 08/2023 | Cambridge, MA

Undergraduate researcher advised by Prof. Polina Golland

• Dynamic Neural Fields for Learning Atlases of 4D Fetal MRI Time-series

- Utilized dynamic neural fields to learn atlases of 4D fetal MRI time-series
- Yielded high-quality atlases with competitive registration performance and ~5-7 times faster convergence compared to existing work

CCB Fintech Company

07/2022 – 08/2022

Java Developer Intern

Nanjing, Jiangsu, China

- Joined the "Wuxi Housing Service Unified Platform" project, which integrates the whole process of property area management into online management
- Developed various functions for the project using java and addressed ten bugs, such as adding a missing interface to the list of functionalities

SELECTED PROJECTS

Adversarial Attacks and Defense in Image Classification

04/2023 – 05/2023

MIT 18.0651: Matrix Methods

- Conducted a literature review on adversarial attack and defense algorithms in image classification

- Explored different methods for adversarial example generation and their detailed impact
- Reviewed representative anti-attack methods in methodology, applied these methods to the adversarial examples, and conducted extensive experiments on the ImageNet dataset to compare their effectiveness

Chinese Chess

11/2022 – 01/2023

ShanghaiTech CS181: Artificial Intelligence

- Built a Chinese Chess game with Python and C++, including a user-friendly game panel for human players
- Developed three AI agents utilizing Minimax Search, Q-Learning, and Monte-Carlo Tree Search algorithms

Chrome Dino Minigame on Longan Nano

05/2022 – 06/2022

ShanghaiTech CS110P: Computer Architecture I

- Utilized RISC-V and C to implement Chrome Dino Game on the Longan Nano development board
- Engineered software-hardware interfaces to leverage both integrated and external board buttons for game control

HONORS AND AWARDS

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| • ShanghaiTech International Exchange Program Scholarship | 06/2023 |
| • ShanghaiTech Merit Student, 2021-2022 | 12/2022 |
| • ShanghaiTech Outstanding Student, 2020-2021 | 12/2021 |
| • The Outstanding Individual of ShanghaiTech Career Trek Program | 11/2022 |
| • The Outstanding Individual of ShanghaiTech Social Practice Project | 11/2021 |

ACTIVITIES

NuDay Organization Volunteer

07/2023

Derry, NH

- Sorted clothing and toys that were to be donated to Syria refugees

Language Conversation Exchange (LCE)

05/2023 – 07/2023

MIT, Cambridge, MA

- Met with an American partner once a week to teach him Chinese and learn more about American culture from him

Teaching Assistant in Algorithm and Data Structures

09/2022 – 01/2023

ShanghaiTech, Shanghai, China

- Led class review sessions, gave homework questions and graded assignments for 200 students

2022 Shanghai Marathon Volunteer

11/2022

Shanghai, China

- Checked-in athletes and maintained the order of the competition

Career Trek Program

09/2022

Shanghai, China

- Visited Baidu Apollo autonomous perception system lab for an in-depth study of driverless technology

Social Practice Project

07/2021

Wa'se city, Yunnan, China

- Conducted research on the situation and problems encountered in the transmission of intangible cultural heritage by interviewing the inheritors and visiting the museum, and presented a plan to improve the transmission

SKILLS

- **Languages:** Python, C/C++, Java, MATLAB, R, RISC-V
- **Tools:** PyTorch, Markdown, Git, ITK-SNAP

LANGUAGE

- **Chinese** Native
- **English** Fluent, TOEFL: 107 with R30/L26/S23/W28, GRE: 329 + 4.0 with V160/Q169