

Xinye Xiong

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Education

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| Shanghai Jiao Tong University <i>Master of Applied Statistics</i> | Sep 2021 - June 2023 <i>Cum. GPA. 3.63/4.0</i> |
| Southern University of Science and Technology <i>Bachelor of Mathematics and Applied Mathematics</i> | Sep 2017 - Jun 2021 <i>Cum. GPA. 3.82/4.0</i> |

Research Experience

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| Multi-Robot System <i>The Intelligent Robotics and Machine Vision Lab</i> | Sep 2022 - Present <i>Shanghai, China</i> |
| <ul style="list-style-type: none">• An integrated task assignment, path planning, and coordination problem was applied for large-scale robot networks with uncertainties, reaching multiple objectives.• During multi-robot task allocation, prioritize tasks with significant influence on the entire system and formulate the problem of critical subset identification mathematically and statistically.• Apply traffic flow learning to enhance large-scale Multi-Robot cooperative path planning under uncertainties. | |
| Graph Neural Network <i>Shanghai Jiao Tong University</i> | Sep 2021 - Apr 2023 <i>Shanghai, China</i> |
| <ul style="list-style-type: none">• To address the sparsity of mutation datasets, design a graph denoising model to locate the best one or more mutation site(s) on proteins.• Effectively reduce the cost of cancer diagnosis by integrating CNN and GNN to design a stomach disease detection model.• Present a comprehensive review of biological molecules' representations, systems' representations, and geometric deep learning models at different levels. | |
| Computer Vision <i>Southern University of Science and Technology</i> | Sep 2020 - Jan 2022 <i>Shenzhen, Guangdong, China</i> |
| <ul style="list-style-type: none">• Traffic Sign Detection and Recognition: Detect the locations of traffic signs in a video and identify their meaning in real time.• Auto Color: Apply GAN to change the colors of different objects in a single image | |
| Differential Equation <i>Southern University of Science and Technology</i> | Sep 2019 - Jun 2021 <i>Shenzhen, Guangdong, China</i> |
| <ul style="list-style-type: none">• Numerical Calculation on Fluid Partial Differential Equations.• Ordinary Differential Equations on Infectious Disease Model: Build multiple ODE models to predict the number of people infected by different infectious diseases and make COVID-19 predictions. | |
| Photoacoustic Imaging <i>Southern University of Science and Technology</i> | Jun 2018 - Oct 2018 <i>Shenzhen, Guangdong, China</i> |

Intern Experience

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| AI Software Intern <i>Taize ChipTech</i> | Oct 2021 - Mar 2022 <i>Shanghai, China</i> |
| <ul style="list-style-type: none">• ResNet-18 on FPGA: Design essential forward propagation functions and stack them to run on FPGA.• VLIW Compiler Development: Cooperate with fulfilling AI operator library in assembly language.• Fixed Issue: ResNet-18 running results on FPGA were inconsistent with those generated by PyTorch. | |

Publications

- Xinye Xiong, Xingyao Han, Zhe Liu, Hesheng Wang, “Exhaustiveness Does Not Necessarily Mean Better: Selective Task Planning for Multi-robot Systems.” *2023 IEEE International Conference on Robotics and Biomimetics (ROBIO) (Under Review)*.
- Xingyao Han, Siyuan Chen, Xinye Xiong, Shunbo Zhou, Zhe Liu, “Traffic Flow Learning Enhanced Large-Scale Multi-Robot Cooperative Path Planning Under Uncertainties.” *2024 IEEE International Conference on Robotics and Automation (ICRA) (Under Review)*.
- X Xiong, B Zhou, YG Wang, “Graph Representation Learning for Interactive Biomolecule Systems.” *arXiv*.
- B Zhou, O Lv, K Yi, X Xiong, P Tan, L Hong, YG Wang, “Lightweight Equivariant Graph Representation Learning for Protein Engineering.” *Machine Learning for Structural Biology Workshop, NeurIPS 2022*.
- Y Shen, B Zhou, X Xiong, R Gao, YG Wang, “How Graph Neural Networks Enhance Convolutional Neural Networks Towards Mining the Topological Structures from Histology.” *ICML Workshop on Computational Biology 8*

Awards & Honors

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| Academic Scholarship of Shanghai Jiao Tong University <i>Shanghai Jiao Tong University</i> | <i>2021 - 2023</i> |
| Outstanding Graduate of the Faculty of Science <i>Southern University of Science and Technology</i> | <i>2021</i> |
| Outstanding Graduate of the Mathematics Department <i>Southern University of Science and Technology</i> | <i>2021</i> |
| The first prize of SUSTech Outstanding Student Scholarship <i>Southern University of Science and Technology</i> | <i>2019 - 2021</i> |
| Sports Star of the Shuren College of SUSTech <i>Southern University of Science and Technology</i> | <i>2020</i> |
| Third Prize in Mathematical Contest in Modeling for Chinese University Students <i>China Association for Industrial and Applied Mathematics</i> | <i>2019</i> |

Others

- **Programming Languages:** Python, R, Matlab, C, C++, Java, Julia,
- **Athletics:** Member of the Women’s Soccer Team of SJTU, Captain of the Women’s Soccer Team of SUSTech Shuren College.
- **WFAXSJTU Club Organizer:** We are the first team in China to promote walking soccer, a sport similar to soccer but forbidden from running. We established the club to attract people with relative physical strength, such as senior citizens, to exercise more through soccer.
- See more information on <https://xinyexiong.github.io/>