

Weiming Chen

PH.D. CANDIDATE

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Summary

I am currently a Ph.D. candidate at Southern University of Science and Technology. I am a self-driven, quick starter, passionate researcher with a curious mind who enjoys solving complex and challenging real-world computer vision problems. My research interests include machine learning, computer vision, multimodality, AIGC, text-to-image synthesis, object detection, and remote sensing.

Skills

Programming	Python (Advanced), MATLAB, C/C++, SQL
Library	PyTorch (Advanced), Tensorflow, OpenCV, Numpy, Matplotlib, Pandas, Sklearn
Front/Back-end	Hugo, Qt, Django
Design	Solidworks, AutoCAD
Languages	Chinese (Native), English (CET-6)
Others	Latex, Office

Education

Xidian (Xidian University)

Xi'an, China

B.ENG. IN MECHANICAL DESIGN MANUFACTURE AND AUTOMATION

Aug. 2015 - Jun. 2019

- Thesis: Research on Composite Sketch Recognition Algorithm Based on Deep Feature Representation. Supervisor: Prof. Xinbo Gao (IEEE Fellow)

Xidian (Xidian University)

Xi'an, China

M.SC. IN ELECTRONIC SCIENCE AND TECHNOLOGY

Sep. 2020 - Jun. 2023

- Thesis: Research on Ship Detection Algorithm of High Resolution Optical Remote Sensing Image. Supervisor: Prof. Bing Han

SUSTech (Southern University of Science and Technology)

Shenzhen, China

PH.D. IN INTELLIGENT MANUFACTURING AND ROBOTICS

Sep. 2023 - Present

- Research Interest: Multi-modality, AIGC, Text-to-Image Synthesis. Supervisor: Prof. Zhihai He (IEEE Fellow)

Work Experience

Xi'an Air Clean Electronic Technology Co., Ltd.

Xi'an, China

CTO

Jun. 2019 - May. 2022

- Develop a remote monitoring system for mandibular postoperative rehabilitation based on the face keypoints detection algorithm.
- Develop an air quality detector.
- Responsible for the industrial design of products.

Southern University of Science and Technology

Shenzhen, China

TEACHING ASSISTANT

Sep. 2023 - Jan. 2024

- Engineering Mathematics (EE207, 2023 Fall).

Projects

Research on XXX. Project Amount: CNY 1,600,000

Xi'an, China

XXX PLAN

Oct. 2021 - Apr. 2024

- A member of the project team.
- Build a dataset of driver driving behavior based on eye movements.

Research on Key Technologies of Adaptive Multi-Domain Image Data Automatic Annotation. Project Amount: CNY 800,000

Xi'an, China

THE PROJECT OF THE KEY INDUSTRY INNOVATION CHAIN OF SHAANXI

Jan. 2022 - Dec. 2024

- The main student leader of the project.
- Responsible for the research on object incremental annotation based on domain adaptation and active learning.
- Responsible for developing a multi-domain parallel intelligent data processing platform based on artificial intelligence technology.

Cross Media Information Processing and Cognitive Curriculum Construction. Project

Amount: CNY 10,000

Xi'an, China

POSTGRADUATE CASE TEACHING CURRICULUM CONSTRUCTION PROJECT OF XIDIAN UNIVERSITY

May. 2022 - May. 2023

- The main developer of the project.
- Develop a Visual Annotation Platform based on Python and PySide6.

A Human-Machine Intention Expression and Knowledge Learning System Based on Large Models. Project Amount: CNY 20,000

Shenzhen, China

CLIMBING PLAN, UNIVERSITY STUDENTS INNOVATION AND ENTREPRENEURSHIP PROJECT IN GUANGDONG PROVINCE

Nov. 2023 - Oct. 2024

- The main leader of the project.
- Responsible for the research on multimodal human-machine interaction.
- Responsible for the research on text-to-image synthesis.

Research Project on AI-based Home Care by Zhenny Technology in the Department of Electronic and Electrical Engineering. Project Amount: CNY 4,500,000

Shenzhen, China

HORIZONTAL PROJECT

Nov. 2023 - Aug. 2024

- A member of the project team.
- Responsible for the research on real-time pose estimation and the fall-down detection algorithm.

Publications

PAPER

Siyi Liu*, **Weiming Chen***, Yushun Tang, Zhihai He. LatentEdit: Adaptive Latent Control for Consistent Semantic Editing[C]. PRCV, 2025. (*: Equal Contributions)

Weiming Chen, Bing Han, Zheng Yang, Xinbo Gao. MSSDet: Multi-Scale Ship-Detection Framework in Optical Remote-Sensing Images and New Benchmark[J]. Remote Sensing, 2022, 14(21): 5460. DOI: 10.3390/rs14215460. (SCI-Q2, SCI: 000883986600001, EI: 20224613127109)

Zheng Yang, Bing Han, **Weiming Chen**, Xinbo Gao. TMDiMP: Temporal Memory Guided Discriminative Tracker for UAV Object Tracking[J]. Remote Sensing. 2022, 14(24): 6351. DOI: 10.3390/rs14246351. (SCI-Q2, SCI: 000902951900-001, EI: 20225213315755)

Zheng Yang, Bing Han, **Weiming Chen**, Xinbo Gao. Learn to Encode Heterogeneous Data: A Heterogeneous Aware Network for Multi-Future Trajectory Prediction[C]. Proceedings of the International Joint Conference on Neural Networks, 2023. DOI: 10.1109/IJCNN54540.2023.10191508. (CCF-C, EI: 20233614678559)

Weiming Chen, Bing Han, Xinbo Gao. Oriented Ship Detection Based on Expansion Deformation Rotation Representation[C]. Proceedings - 2023 3rd International Conference on Frontiers of Electronics, Information and Computation Technologies, ICFEICT 2023: 621-627. DOI: 10.1109/ICFEICT59519.2023.00108. (EI: 20233914800823)

Yang Zhou, Bing Han, Xinbo Gao, Zheng Yang, **Weiming Chen**. Domain Adaptive Object Detection Based on Attention Mechanism and Cycle Domain Triplet Loss[J]. ACTA AUTOMATICA SINICA, 2024, 50(11): 2188-2203. DOI: 10.16383/j.aas.c220938.

Bing Han, Lu Gao, Xinbo Gao, **Weiming Chen**. Nuclear segmentation method for thyroid carcinoma pathologic images based on boundary weighting[J]. Journal of Xidian University, 2023, 50(5): 75-86. DOI: 10.19665/j.issn1001-2400.20230501.

PATENT

Zhihai He, Siyi Liu, **Weiming Chen**, Qifan Liu, Yushun Tang, Jian Ouyang. Image inversion method, device, terminal and storage medium based on diffusion model[P]. China, Invention Patent. Application Number: 2024115602341, Application Date: 2024-11-04. (Under review)

Zhihai He, Jiyuan Jia, Yushun Tang, **Weiming Chen**, Yi Zhang, Jian Ouyang. A multi-label image classification method, device, terminal and storage medium[P]. China, Invention Patent. Application Number: 2024115602290, Application Date: 2024-11-04. (Under review)

Bing Han, Xiaoyue Huang, Zheng Yang, Xinbo Gao, **Weiming Chen**. Noise target frame correction method based on uncertainty perception and complementary information[P]. China, Invention Patent. Application Number: 2024111-666170, Application Date: 2024-08-23. (Under review)

Bing Han, **Weiming Chen**, Xinbo Gao, Zheng Yang, Xiaoyue Huang. Multi-scale target detection method based on joint recursive feature pyramid[P]. China, Invention Patent. Application Number: 2022113394400, Application Date: 2022-10-29, Authorized Date: 2025-07-04. (Authorized)

Bing Han, Zheng Yang, Xinbo Gao, **Weiming Chen**, Xiaoyue Huang. Agent trajectory prediction method based on heterogeneous data association mining and metric learning[P]. China, Invention Patent. Application Number: 2022111630697, Application Date: 2022-09-23, Authorized Date: 2025-07-01. (Authorized)

Bing Han, Zheng Yang, Xinbo Gao, **Weiming Chen**, Xiaoyue Huang. Unmanned aerial vehicle visual angle target tracking method based on sequence perception and feature enhancement[P]. China, Invention Patent. Application Number: 202211-1949471, Application Date: 2022-09-27, Authorized Date: 2025-07-01. (Authorized)

Bing Han, Lu Gao, **Weiming Chen**, Xiaoyue Huang. The invention discloses a pathological image segmentation method based on point labeling data[P]. China, Invention Patent. Application Number: 2022105696413, Application Date: 2022-05-24, Authorized Date: 2024-09-24. (Authorized)

Bing Han, **Weiming Chen**, Ping Wang, Yannan Xiong, Yang Zhou, Weixiong Zhao. Visual Image Annotation Platform V1.0[P]. China, Computer Software Copyright. Registration Number: 2023SR0432943, Registration Date: 2023-04-03. (Authorized)

Bing Han, **Weiming Chen**, Yang Zhou, Haitong Wang, Weixiong Zhao. Optical Remote Sensing Image Data Processing Platform V1.0[P]. China, Computer Software Copyright. Registration Number: 2023SR0674142, Registration Date: 2023-06-15. (Authorized)

Honors & Awards

ACADEMIC COMPETITION

2017	(National) First Prize , National College Students Advanced Mapping Technology and Product Information Modeling Innovation Competition, 3D Printing (Mechanical Group)	Lanzhou, China
2017	(National) Second Prize , National College Students Advanced Mapping Technology and Product Information Modeling Innovation Competition, Computational Modeling (Mechanical Group)	Lanzhou, China
2017	(National) Third Prize , National College Student Mathematical Modeling Challenge Competition (Undergraduate Group)	Xi'an, China
2017	(National) Third Prize , The "Teddy Cup" National College Student Data Mining Challenge Competition	Xi'an, China
2017	(Provincial) First Prize , The 5th National College Student Engineering Training Comprehensive Ability Competition Shaanxi Division Electric Control Obstacle Crossing Competition	Xi'an, China
2017	(Provincial) Second Prize , Mathematical Chinese Mathematical Modeling International Competition	Xi'an, China
2018	(School) Second Prize , Xidian University Mathematical Modeling Competition	Xi'an, China
2018	(National) Third Prize , Mathematical Contest In Modeling & Interdisciplinary Contest In Modeling	Xi'an, China
2018	(Provincial) Second Prize , The 8th National College Student Mechanical Innovation Design Competition Shaanxi Division	Xi'an, China

SCHOLARSHIPS & TITLES

2016	Second-class Scholarship , 2015-2016 academic year	Xi'an, China
2016	Outstanding Student Cadre , 2015-2016 academic year	Xi'an, China
2016	Outstanding Member of the Youth League , 2015-2016 academic year	Xi'an, China
2016	Outstanding Cadre of the Youth League , 2015-2016 academic year	Xi'an, China
2017	Special Scholarship , 2016-2017 academic year	Xi'an, China
2017	Outstanding Student Model , 2016-2017 academic year	Xi'an, China
2018	Second-class Scholarship , 2017-2018 academic year	Xi'an, China
2021	Second-class Scholarship , 2020-2021 academic year	Xi'an, China
2022	Second-class Scholarship , 2021-2022 academic year	Xi'an, China
2022	Outstanding Graduate Student , 2021-2022 academic year	Xi'an, China
2023	First-class Scholarship , 2022-2023 academic year	Xi'an, China
2023	Outstanding Graduate Student , 2022-2023 academic year	Xi'an, China

SPORTS COMPETITION

2016	(Provincial) The 3rd place , Shaanxi University Badminton Tournament, Mixed Team (Group A)	<i>Xi'an, China</i>
2017	(Provincial) The 3rd Place , Shaanxi University Badminton Tournament, Mixed Team (Group A)	<i>Xi'an, China</i>
2018	(Provincial) The 2nd Place , Shaanxi University Badminton Tournament, Mixed Team (Group A)	<i>Xi'an, China</i>
2018	(Provincial) The 6th Place , Shaanxi University Badminton Tournament, Mixed Doubles (Group A)	<i>Xi'an, China</i>
2018	(City) The 2nd Place , Decathlon Badminton Individual Challenge Competition, Men's Single	<i>Xi'an, China</i>
2019	(National) The 7th Place , Chinese College Student Sunshine Sports Badminton Competition, Men's Team	<i>Guilin, China</i>
2019	(Provincial) Champion , Shaanxi University Badminton Tournament, Men's Team (Group A)	<i>Hanzhong, China</i>
2019	(Provincial) Champion , Shaanxi University Badminton Tournament, Men's Single (Group A)	<i>Hanzhong, China</i>
2019	(City) The 3rd Place , Li-Ning 3V3 Badminton Competition, Mixed Team	<i>Xi'an, China</i>
2019	(City) The 3rd Place , Li-Ning 3V3 Badminton Competition, Mixed Doubles	<i>Xi'an, China</i>
2019	(City) The 3rd Place , Shenzhen Cup Amateur Badminton League, Mixed Team (Futian Station)	<i>Shenzhen, China</i>
2020	(Provincial) Champion , Shaanxi New Year Celebration Cup Team Tournament, Mixed Team (Group A)	<i>Xianyang, China</i>
2021	(City) Champion , YONEX "Legacy Tour" Badminton Tournament in Xi'an, Men's Doubles (Adult Group A)	<i>Xi'an, China</i>
2022	(Provincial) The 4th Place , The 17th Games of Shaanxi Province Badminton Competition, Men's Team	<i>Mizhi, China</i>
2022	(City) Champion , YONEX "Legacy Tour" Badminton Tournament in Xi'an, Mixed Doubles (Adult Group A)	<i>Xi'an, China</i>
2023	(City) Champion , Xi'an "JTHY Cup" Badminton Open, Men's Doubles (Adult Group A)	<i>Xi'an, China</i>