

Bo DING

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Education

City University of Hong Kong

Sept. 2024 - Present

Ph.D. in Electrical Engineering (UGC-funded)
Hong Kong, China

- **Advisor:** Professor Haoliang Li
- **Areas of Study:** Generative Model, Natural Language Understanding

Institute of Computing Technology, Chinese Academy of Sciences

Sept. 2021 - July 2024

Master in Computer Application Technology (Being recommended for admission)
Beijing, China

- **GPA:** 3.71 / 4.00
- **Advisor:** Professor Shihong Xia
- **Areas of Study:** Face Forgery Detection, Talking Face Generation

Beijing University of Posts and Telecommunications

Sept. 2017 - July 2021

Bachelor in Communication Engineering (Class for Talents)
Beijing, China

- **GPA:** 3.79 / 4.00 **Ranking:** 11 / 495
- **Math-Related Courses:** Discrete Mathematics (100), Digital Signal Processing (98), Linear Algebra (96)

Publications

- **Bo Ding**, Zhenfeng Fan, Shuang Yang, Shihong Xia, MyPortrait: Morphable Prior-Guided Personalized Portrait Generation (Under review)
- **Bo Ding**, Zhenfeng Fan, Zejun Zhao, Shihong Xia, Mining Collaborative Spatio-Temporal Clues for Face Forgery Detection, *Multimedia Tools and Applications* (JCR Q2, CCF-C), 2023
- Zejun Zhao, Zhenfeng Fan, **Bo Ding**, Shihong Xia, Deepfake Detection Based on Incremental Learning, *Frontiers of Data & Computing* (In Chinese), 2023
- Junhao Dong, Bo Xiao, **Bo Ding**, Haoyu Wang, GT-GAN: A General Transductive Zero-Shot Learning Method Based on GAN, *IEEE Access* (JCR Q2), 2020

Research Experience

Research on Controllable Talking Face Generation method

Feb. 2023 - July 2024

Institute of Computing Technology, Chinese Academy of Sciences
Beijing, China

- **Background:** Monocular video-based portrait generation methods can generate realistic neutral portraits. However, due to limited training data, they generate low-quality images when confronted with unseen face parameters.
- **Contribution:** (1) Implemented an identity-specific neural portrait generation method based on the monocular video capable of generating high-quality talking face videos. (2) Extended the learned face parameter manifolds by introducing auxiliary training data to generate personalized neural portraits.
- **Result:** Completed a first-authored paper.

Research on Face Forgery Detection method

Sept. 2021 - Feb. 2023

Institute of Computing Technology, Chinese Academy of Sciences
Beijing, China

- **Background:** The lack of generalization ability is a challenge for existing face forgery detection methods. Recently, mining low-level features with strong generalization ability for face forgery detection received extensive attention.
- **Contribution:** (1) Proposed a multi-branch spatio-temporal difference network for face forgery detection by capturing complementary low-level spatio-temporal features in videos, which can enhance the generalization ability of the model. (2) Involved in the design of a face forgery detection system based on incremental learning, which reduces the training cost of the model when introducing new forgery samples.
- **Result:** Completed a first-authored SCI paper and a co-authored Chinese paper.

Research on Deep Learning based Face Swapping method

Nov. 2020 - May 2021

Institute of Computing Technology, Chinese Academy of Sciences
Beijing, China

- **Background:** The traditional Deepfake method based on autoencoders enables face swapping by simply exchanging encoders and decoders from different branches, but there is still room for improvement in the image quality.
- **Contribution:** (1) Proposed a deep learning face swapping method with an improved auto-encoder structure, which improves the quality of the generated images to a certain extent. (2) Implemented a face swapping system, including a face extraction module, a face swapping module, and a face fusion module.
- **Result:** Completed the bachelor thesis and won the Excellent Bachelor Thesis Award.

Internships

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| ByteDance <i>Research on AI for Digital Human</i> | Research Intern <i>Beijing, China</i> |
| Denso <i>Research on AI for Driver Assistance System</i> | Research Intern <i>Beijing, China</i> |

Talks

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| Developing a Self-Managed Lifestyle: An Example of Career Planning <i>Advanced Computing Technology Seminar, ICT, CAS</i> | June 2024 <i>Beijing, China</i> |
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Academic Services

- **Conference Reviewer:** ACM MM 2024, WWW 2024

Honors and Awards

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| • Postgraduate Studentship | Hong Kong Government funds (2024 - 2028) |
| • Excellent Prize of the President Scholarship | Institute of Computing Technology, CAS (2024) |
| • Excellent Research Assistant | Institute of Computing Technology, CAS (2023) |
| • The First Prize Scholarship | Institute of Computing Technology, CAS (2023) |
| • The Second Prize Scholarship | Institute of Computing Technology, CAS (2021, 2022) |
| • Outstanding Student Leader | University of Chinese Academy of Sciences (2022, 2023) |
| • Merit Student | University of Chinese Academy of Sciences (2022, 2023, 2024) |
| • Excellent League Leader | University of Chinese Academy of Sciences (2022) |
| • Excellent Bachelor Thesis | Beijing University of Posts and Telecommunications (2021) |
| • Honorable Mention | Mathematical Contest In Modeling (2020) |
| • Second Prize | The Chinese Mathematics Competitions (2019) |
| • The Enterprise Scholarship | Beijing University of Posts and Telecommunications (2019) |
| • Excellent League Member | Beijing University of Posts and Telecommunications (2019) |
| • National Encouragement Scholarship | Beijing University of Posts and Telecommunications (2018, 2020) |

Technical Skills

- **Programming:** Familiar with Python, and know about C/C++, MATLAB
- **Frameworks:** Familiar with Pytorch, Opencv, Pillow, Numpy

Association Experience

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| • Secretary of the Youth League Branch | ICT, CAS (2023 - 2024) |
| • Class President, School of Computer Science and Technology | ICT, CAS (2022 - 2024) |
| • Minister of the Organization Department, Student Career Development Association | ICT, CAS (2022 - 2023) |
| • Campus Broadcasting Station Announcer | BUPT (2018 - 2020) |