

BINHUI XIE (谢斌辉)

Ph.D. Student@Beijing Institute of Technology

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EDUCATION

Beijing Institute of Technology

Beijing, China

Ph.D. Student in School of Computer Science and Technology

Sep 2019 – 2025 (expected)

- Advisor: Prof. Shuang Li and Prof. Chi Harold Liu

Beijing Institute of Technology

Beijing, China

B.Eng. in Software Engineering

Sep 2015 – Jul 2019

- GPA: 3.5/4.0; Excellent Undergraduate

RESEARCH EXPERIENCE

Beijing Academy of Artificial Intelligence

Beijing, China

Research Intern in multimodal and vision research center

Sep 2022 – Apr 2023

- Mentored by Yue Cao and closely collaborated with Xinlong Wang, Yuxin Fang, Wen Wang, Quan Sun on the project “EVA: Visual Representation Fantasies”.

AWARDS AND HONORS

- **Scholar Award & Top Reviewers**, NeurIPS, 2023.
- **National Scholarship (国家奖学金)**, Ministry of Education of China, 2023.
- **Young Scientist Group (青源会)**, BAAI, 2023.
- **3rd place**, VisDA Challenge@NeurIPS, 2022.
- **CETC GUORUI Scholarship (国瑞奖学金)**, CETC, 2021.
- **Excellent Undergraduate & Graduation Thesis**, Beijing Institute of Technology, 2019.

PUBLICATIONS

Binhui Xie is currently a Ph.D. student at Beijing Institute of Technology, focusing on transfer learning, multimodal models, and efficient fine-tuning. He has published several works in top-tier journals and conferences including TPAMI, TKDE, NeurIPS, CVPR, AAAI, etc. Two were selected as 🏆 **ESI Highly Cited Paper**. His work of EVA was selected as the **7th most influential paper in CVPR 2023**. He has collected more than **1000 citations** according to **Google Scholar**. The detailed paper list is presented as follows.

Selected Publications

- [1]. **EVA: Exploring the Limits of Masked Visual Representation Learning at Scale**
Yuxin Fang, Wen Wang, **Binhui Xie**, Quan Sun, Ledell Yu Wu, Xinggang Wang, Tiejun Huang, Xinlong Wang, Yue Cao
IEEE Conference on Computer Vision and Pattern Recognition (CVPR, Highlight), 2023.
CVPR 2023 Top-10 Influential Papers (Rank 7)
- [2]. **SePiCo: Semantic-Guided Pixel Contrast for Domain Adaptive Semantic Segmentation**
Binhui Xie, Shuang Li, Mingjia Li, Chi Harold Liu, Gao Huang, Guoren Wang
IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI, IF: 23.6), 2023.
 **ESI Highly Cited Paper**
- [3]. **Generalized Domain Conditioned Network**
Shuang Li, **Binhui Xie**, Qiuxia Lin, Chi Harold Liu, Gao Huang, Guoren Wang
IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI, IF: 23.6), 2022.
- [4]. **Annotator: A Generic Active Learning Baseline for LiDAR Semantic Segmentation**
Binhui Xie, Shuang Li, Qingju Guo, Chi Harold Liu, Xinjing Cheng
Advances in Neural Information Processing Systems (NeurIPS), 2023.
- [5]. **Towards Fewer Annotations: Active Learning via Region Impurity and Prediction Uncertainty for Domain Adaptive Semantic Segmentation**
Binhui Xie, Longhui Yuan, Shuang Li, Chi Harold Liu, Xinjing Cheng
IEEE Conference on Computer Vision and Pattern Recognition (CVPR, Oral), 2022.
- [6]. **Active Learning for Domain Adaptation: An Energy-based Approach**
Binhui Xie, Longhui Yuan, Shuang Li, Chi Harold Liu, Xinjing Cheng, Guoren Wang
AAAI Conference on Artificial Intelligence (AAAI), 2022.
- [7]. **A Collaborative Alignment Framework of Transferable Knowledge Extraction for Unsupervised Domain Adaptation**
Binhui Xie, Shuang Li, Fangrui Lv, Chi Harold Liu, Guoren Wang, Dapeng Wu
IEEE Transactions on Knowledge and Engineering (TKDE), 2023.
 **ESI Highly Cited Paper**
- [8]. **VBLC: Visibility Boosting and Logit-Constraint Learning for Domain Adaptive Semantic Segmentation under Adverse Conditions**
Mingjia Li*, **Binhui Xie***(co-first author), Shuang Li, Chi Harold Liu, Xinjing Cheng
AAAI Conference on Artificial Intelligence (AAAI, Oral), 2023.

- [9]. **Robust Test-Time Adaptation in Dynamic Scenarios**
Longhui Yuan, **Binhui Xie**, Shuang Li
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2023.
- [10]. **Simultaneous Semantic Alignment Network for Heterogeneous Domain Adaptation**
Shuang Li, **Binhui Xie**, Jiashu Wu, Ying Zhao, Chi Harold Liu, Zhengming Ding
ACM International Conference on Multimedia (MM), 2020.

Full Publications

- [11]. **Enhancing Cross-Modal Fine-Tuning with Gradually Intermediate Modality Generation**
Lincan Cai, Shuang Li, Wenxuan Ma, Jingxuan Kang, **Binhui Xie**, Zixun Sun, Chengwei Zhu
International Conference on Machine Learning (ICML), 2024.
- [12]. **Critical Classes and Samples Discovering for Partial Domain Adaptation**
Shuang Li, Kaixiong Gong, **Binhui Xie**, Chi Harold Liu, Weipeng Cao, Song Tian
IEEE Transactions on Cybernetics (TYCB), 2023.
- [13]. **Joint Semantic Transfer Network for IoT Intrusion Detection**
Jiashu Wu, Yang Wang, **Binhui Xie**, Shuang Li, Hao Dai, Kejiang Ye, Chengzhong Xu
IEEE Internet of Things Journal (IoTJ), 2023.
- [14]. **VisDA 2022 Challenge: Domain Adaptation for Industrial Waste Sorting**
Dina Bashkirova, Samarth Mishra, Diala Lteif, Piotr Teterwak, Donghyun Kim, Fadi Alladkani, James Akl, Berk Calli, Sarah Adel Bargal, Kate Saenko, Daehan Kim, Minseok Seo, YoungJin Jeon, Dong-Geol Choi, Shahaf Etredgui, Raja Giryes, Shady Abu-Hussein, **Binhui Xie**, Shuang Li
Proceedings of the NeurIPS 2022 Competitions Track, 2022.
- [15]. **Bi-Classifier Determinacy Maximization for Unsupervised Domain Adaptation**
Shuang Li, Fangrui Lv, **Binhui Xie**, Chi Harold Liu, Jian Liang, Chen Qin
AAAI Conference on Artificial Intelligence (AAAI), 2021.
- [16]. **Domain Conditioned Adaptation Network**
Shuang Li, Chi Harold Liu, Qiuxia Lin, **Binhui Xie**, Zhengming Ding, Gao Huang, Jian Tang
AAAI Conference on Artificial Intelligence (AAAI), 2020.
- [17]. **Discriminative Transfer Feature and Label Consistency for Cross-Domain Image Classification**
Shuang Li, Chi Harold Liu, Limin Su, **Binhui Xie**, Zhengming Ding, CL Philip Chen, Dapeng Wu
IEEE Transactions on Neural Networks and Learning Systems (TNNLS), 2020.
- [18]. **Joint Adversarial Domain Adaptation**
Shuang Li, Chi Harold Liu, **Binhui Xie**, Limin Su, Zhengming Ding, Gao Huang

ACM International Conference on Multimedia (MM), 2019.

ACADEMIC SERVICES

Conference Reviewer ICML'24, ICLR'24/23, NeurIPS'24/23, CVPR'24/23/22/21, ICCV'23/21, ECCV'24/22...

- **Top Reviewers**, NeurIPS, 2023

Journal Reviewer T-PAMI, IJCV, T-IP, T-KDE, T-CSVT, Pattern Recognition, T-IV...

Workshop Organizer Student Workshop@VALSE (2022)

Teaching Assistant Machine Learning Essentials, Spring 2021 & Spring 2022

INVITED TALKS

- 2023.11, **AI TIME** (online), A Generic Active Learning Baseline in LiDAR Semantic Segmentation
- 2023.4, **VALSE** (recorded), Data-Efficient Semantic Segmentation.
- 2022.6, **ReadPaper** (recorded), Active Learning for Adaptive Semantic Segmentation.
- 2022.6, **Synced** (online), Towards Fewer Annotations for Semantic Segmentation.
- 2022.5, **Zhidx Course** (online), Domain Adaptation meets Active Learning.
- 2022.03, **AI Drive** (online), Energy-based Active Domain Adaptation.
- 2021.10, **VALSE** (Hangzhou), spotlight & poster, Generalized Domain Conditioned Adaptation.