

Binhui Xie (谢斌辉)

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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

PUBLICATIONS

Binhui Xie is currently a Ph.D. student at Beijing Institute of Technology, focusing on transfer learning, data-efficient learning and multimodal learning. He has published several works in top-tier conferences and journals including **TPAMI** (2), **TKDE** (1), **NeurIPS** (1), **CVPR** (3), and **AAAI** (4), etc. Three were selected for “**Oral/Highlight**” (acceptance rate: **2-4%**) by CVPR and AAAI. He has collected **750+ citations** (Google Scholar). The detailed paper list is presented in the following.

Selected Publications

- [1]. **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**, **Q1**, **IF: 23.6**), 2023.
- [2]. **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**, **Q1**, **IF: 23.6**), 2022.
- [3]. **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.
- [4]. **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/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**, **Highlight**), 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/CVF 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, CCF-A), 2023.
- [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]. **Joint Adversarial Domain Adaptation**
 Shuang Li, Chi Harold Liu, Binhui Xie, Limin Su, Zhengming Ding, Gao Huang
ACM International Conference on Multimedia (MM), 2019.
- [12]. **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.
- [13]. **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, Q1, IF: 11.8), 2023.

- [14]. **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, Q1, IF: 10.6), 2023.
- [15]. **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.
- [16]. **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, Q1, IF: 10.4), 2020.
- [17]. **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 Etteedgui, Raja Giryes, Shady Abu-Hussein, **Binhui Xie**, Shuang Li
Proceedings of the NeurIPS 2022 Competitions Track, 2022.

Technical Reports

- **Generalized Robust Test-Time Adaptation in Continuous Dynamic Scenarios**
 Shuang Li, Longhui Yuan, **Binhui Xie**, Tao Yang
 arXiv preprint arXiv:2310.04714.
- **SPCL: A New Framework for Domain Adaptive Semantic Segmentation via Semantic Prototype-based Contrastive Learning**
Binhui Xie, Mingjia Li, Shuang Li
 arXiv preprint arXiv:2111.12358.
- **Semantic Distribution-aware Contrastive Adaptation for Semantic Segmentation**
 Shuang Li, **Binhui Xie**, Bin Zang, Chi Harold Liu, Xinjing Cheng, Ruigang Yang, Guoren Wang
 arXiv preprint arXiv:2105.05013.

PROFESSIONAL SERVICE

Workshop Organizer Student Workshop@Valse (2022)

Reviewer ICLR (2023-2024), NeurIPS (2023), CVPR (2021-2024), ICCV (2021-2023), ECCV (2022), AAAI (2021-2024), TIP, TKDE, Pattern Recognition, TIV, ...

Teaching Assistant Machine Learning Essentials, Spring 2021 & Spring 2022

AWARDS AND HONORS

- **Scholar Award**, NeurIPS, 2023.
- **National Scholarship** (国家奖学金), Ministry of Education of China, 2023.
- **3rd place**, VisDA Challenge@NeurIPS, 2022.
- **Special Academic Scholarship** (特等学业奖学金), Beijing Institute of Technology, 2022, 2023.
- **CETC GUORUI Scholarship** (国瑞奖学金), CETC, 2021.
- **Excellent Undergraduate & Graduation Thesis**, Beijing Institute of Technology, 2019.

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.