

# 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 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 **800+ citations** according to Google Scholar. The detailed paper list is presented as follows.

### 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, IF: 23.6)*, 2023.

**ESI Highly Cited Paper**

- [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, IF: 23.6)*, 2022.

- [3]. 🏆 **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**

- [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 Conference on Computer Vision and Pattern Recognition (CVPR, Highlight)*, 2023.  
**PaperDigest Most Influential Papers**
- [5]. **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.
- [6]. **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.
- [7]. **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.
- [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)*, 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)*, 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)*, 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 Ettehadgui, 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

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**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, TCSVT, Pattern Recognition, TIV, ...

**Teaching Assistant** Machine Learning Essentials, Spring 2021 & Spring 2022

## AWARDS AND HONORS

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- **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

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- 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.