

## Experience

### Intellindust

2023–present **Co-Founder and Chief Scientist**, Shenzhen.  
Reliable Edge AI for Real-Time Vision Applications

### Tencent AI Lab

2021–2023 **Senior Researcher**, Shenzhen.  
Multimodal Generative Intelligence

## Education

- 2017–2021 **Ph.D.**, *École des Ponts ParisTech*, Paris.  
**Thesis:** Deep Learning for Near-duplicated Patterns Discovery and Alignment in Artworks  
**Advisor:** [Mathieu Aubry](#)  
**Thesis committee:** [Patrick Pérez](#), [Alexei A. Efros](#), [Shiry Ginosar](#), [Laurent Heutte](#), [Yann Gousseau](#)  
**Impact:** my paper ArtMiner [3] was covered by [Nature](#), my thesis is served as the basis for the [ERC DISCOVER project](#)
- 2013–2017 **Engineering programme**, *École des Ponts ParisTech*, Paris.  
Department of Computer Science and Applied Mathematics
- 2016–2017 **Master**, *École Normale Supérieure Paris-Saclay*, Paris.  
*First-class honors (Mention très bien)*  
Mathematics, Computer Vision and Machine Learning (Mathématiques, Vision, Apprentissage)
- 2009–2013 **Dual Bachelor**, *Université Claude Bernard Lyon & Wuhan University*, Lyon & Wuhan.  
*First-class honors (Mention très bien)*  
Mechanics & Physics

## Languages

**Chinese** Native      **French** Fluent (10 years in France)      **English** Fluent

## Skills

Python (PyTorch), C++, MATLAB, LaTeX  
See my released code on GitHub: <http://github.com/XiSHEN0220>

## Academic Service

Conference ICML, CVPR, ECCV, NeurIPS, ICCV, ICLR, BMVC, WACV  
Journal IJCV, TPAMI, PR

## Awards

ICML 2022	Outstanding Reviewer	<i>ICML Program Committee</i>
ECCV 2024	1st Place, Open-set Recognition challenge	<i>OOD Generalization in CV Workshop</i>
CVPR 2024	1st Place, Low-Light Object Detection Challenge	<i>Physics-Based Vision Workshop</i>
CVPR 2024	3rd Place, Low-Light Instance Segmentation Challenge	<i>Physics-Based Vision Workshop</i>
CVPR 2025	2nd Place, Joint Denoising and Demosaicing Challenge	<i>NTIRE</i>
CVPR 2025	2nd Place, Ball Action Spotting Challenge	<i>SoccerNet</i>
CVPR 2025	Honorable Mention, Foundation Few-shot Object Detection Challenge	<i>FSOD</i>

## Teaching

2021 - 2021	Digital Humanities Meet Artificial Intelligence	Université Paris Sciences & Lettres
2021 - 2021	Computer Vision for Mechanics of Materials	Ecole des Ponts ParisTech
2019 - 2019	Signal Processing and Machine Learning	Ecole des Ponts ParisTech

## Mentoring

2024 - 2025	<a href="#">Haiyang Xie</a>	Wuhan University
2023 - 2024	<a href="#">Yuting Li</a>	China Three Gorges University
2022 - 2023	<a href="#">Jianrong Zhang</a>	Jilin University
2022 - 2023	<a href="#">Yangsong Zhang</a>	Shanghai Jiaotong University
2020 - 2021	<a href="#">Oumayma Bounou</a>	Ecole des Ponts ParisTech
2021 - 2022	<a href="#">Yingyi Chen</a>	KU Leuven
2022 - 2022	<a href="#">Yangtao Wang</a>	Grenoble Computer Science Laboratory
2022 - 2022	<a href="#">Wen Guo</a>	Inria RobotLearn

## Selected Publications

**RED** indicates serving as the corresponding author

### First Author

- [1] **Xi Shen**, Robin Champenois, Shiry Ginosar, Ilaria Pastrolin, Morgane Rousselot, Oumayma Bounou, Tom Monnier, Spyros Gidaris, François Bougard, Pierre-Guillaume Raverdy, Marie-Françoise Limon, Christine Bénévent, Marc Smith, Olivier Poncet, K Bender, Béatrice Joyeux-Prunel, Elizabeth Honig, Alexei A Efros, and Mathieu Aubry. Spatially-consistent feature matching and learning for art collections and watermark recognition. *International Journal of Computer Vision (IJCV)*, 2022. **Project page:** <http://imagine.enpc.fr/~shenx/HisImgAnalysis/>.
- [2] **Xi Shen**, François Darmon, Alexei A Efros, and Mathieu Aubry. Ransac-flow: generic two-stage image alignment. In *European Conference on Computer Vision (ECCV)*, 2020. **Project page:** <http://imagine.enpc.fr/~shenx/RANSAC-Flow/>.
- [3] **Xi Shen**, Alexei A Efros, and Mathieu Aubry. Discovering visual patterns in art collections with spatially-consistent feature learning. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019. **Project page:** <http://imagine.enpc.fr/~shenx/ArtMiner/>.
- [4] **Xi Shen**, Alexei A Efros, Armand Joulin, and Mathieu Aubry. Learning co-segmentation by segment swapping for retrieval and discovery. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition Workshop (CVPRW)*, 2022. **Project page:** <http://imagine.enpc.fr/~shenx/SegSwap/>.
- [5] **Xi Shen**, Yang Xiao, Shell Xu Hu, Othman Sbai, and Mathieu Aubry. Re-ranking for image retrieval and transductive few-shot classification. In *Neural Information Processing Systems (NeurIPS)*, 2021. **Project page:** <http://imagine.enpc.fr/~shenx/SSR/>.

### Corresponding Author

- [6] Yingyi Chen, Shell Xu Hu, **Xi Shen**, Chunrong Ai, and Johan A. K. Suykens. Compressing features for learning with noisy labels. *IEEE Transactions on Neural Networks and Learning Systems (TNNLS)*, 2022. **Project page:** <https://yingyichen-cyy.github.io/CompressFeatNoisyLabels/>.
- [7] Yingyi Chen, **Xi Shen**, Yahui Liu, Qinghua Tao, and Johan A. K. Suykens. Jigsaw-vit: Learning jigsaw puzzles in vision transformer. *Pattern Recognition Letters*, 2022. **Project page:** <https://yingyichen-cyy.github.io/Jigsaw-ViT/>.

- [8] Chenbin Feng, Youyang Sha, Longfei Liu, Yongjun Yu, Chiman Vong, Xuanlong Yu, and **Xi Shen**. Fsdod-vfm: Few-shot object detection with vision foundation models and graph diffusion. In *International Conference on Learning Representations (ICLR)*, 2026. **Project page:** [https://intellindust-ai-lab.github.io/projects/FSOD\\_VLM/](https://intellindust-ai-lab.github.io/projects/FSOD_VLM/).
- [9] Wen Guo, Yuming Du, **Xi Shen**, Vincent Lepetit, Xavier Alameda-Pineda, and Francesc Moreno-Noguer. Back to mlp: A simple baseline for human motion prediction. In *Proceedings of the IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2022. **Code:** <https://github.com/dulucas/siMLPe>.
- [10] Shihua Huang, Yongjie Hou, Longfei Liu, Xuanlong Yu, and **Xi Shen**. Real-time object detection meets dinov3. *arXiv*, 2025. **Project page:** <https://intellindust-ai-lab.github.io/projects/DEIMv2/>.
- [11] Shihua Huang, Zhihao Lu, Xiaodong Cun, Yongjun Yu, Xiao Zhou, and **Xi Shen**. Deim: Detr with improved matching for fast convergence. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2025. **Project page:** <https://www.shihuahuang.cn/DEIM/>.
- [12] Yuting Li, Dexiong Chen, Tinglong Tang, and **Xi Shen**. Htr-vt: Handwritten text recognition with vision transformer. *Pattern Recognition*, 2024. **Project page:** <https://yutingli0606.github.io/HTR-VT/>.
- [13] Yuting Li, Yingyi Chen, Xuanlong Yu, Dexiong Chen, and **Xi Shen**. Sure: Survey recipes for building reliable and robust deep networks. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024. **Project page:** <https://yutingli0606.github.io/SURE/>.
- [14] Longfei Liu, Yongjie Hou, Yang Li, Qirui Wang, Youyang Sha, Yongjun Yu, Yinzhi Wang, Peizhe Ru, Xuanlong Yu, and **Xi Shen**. Edgecrafter: Compact vits for edge dense prediction via task-specialized distillation. *arXiv*, 2026. **Project page:** <https://intellindust-ai-lab.github.io/projects/EdgeCrafter/>.
- [15] Yangtao Wang, **Xi Shen**, Shell Xu Hu, Yuan Yuan, James Crowley, and Dominique Vaufreyday. Self-supervised transformers for unsupervised object discovery using normalized cut. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022. **Project page:** <https://www.m-psi.fr/Papers/TokenCut2022/>.
- [16] Yangtao Wang, **Xi Shen**, Yuan Yuan, Yuming Du, Maomao Li, Shell Xu Hu, James L Crowley, and Dominique Vaufreyday. Tokencut: Segmenting objects in images and videos with self-supervised transformer and normalized cut. In *Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 2023. **Project page:** <https://www.m-psi.fr/Papers/TokenCut2022/>.
- [17] Xuanlong Yu, Youyang Sha, Longfei Liu, **Xi Shen**, and Di Yang. A closer look at cross-domain few-shot object detection: Fine-tuning matters and parallel decoder helps. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2026. **Project page:** <https://intellindust-ai-lab.github.io/projects/FT-FSOD/>.
- [18] Jianrong Zhang, Yangsong Zhang, Xiaodong Cun, Shaoli Huang, Yong Zhang, Hongwei Zhao, Hongtao Lu, and **Xi Shen**. T2M-GPT: Generating Human Motion from Textual Descriptions with Discrete Representations. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023. **Project page:** <https://mael-zys.github.io/T2M-GPT/>.

### Collaboration

- [19] Shell Xu Hu, Pablo G Moreno, Yang Xiao, **Xi Shen**, Guillaume Obozinski, Neil D Lawrence, and Andreas Damianou. Empirical bayes transductive meta-learning with synthetic gradients. In *International Conference on Learning Representations (ICLR)*, 2019. **Code:** [https://github.com/hushell/sib\\_meta\\_learn](https://github.com/hushell/sib_meta_learn).

- [20] Yang Li, Youyang Sha, Yinzhi Wang, Timothy Hospedales, **Xi Shen**, Shell Xu Hu, and Xuanlong Yu. From misclassifications to outliers: Joint reliability assessment for classification. *arXiv*, 2026.
- [21] Weihuang Liu, **Xi Shen**, Haolun Li, Xiuli Bi, Bo Liu, Chi-Man Pun, and Xiaodong Cun. Depth-aware test-time training for zero-shot video object segmentation. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024. **Project page:** <https://nifangbaage.github.io/DATTT/>.
- [22] Weihuang Liu, **Xi Shen**, Chi-Man Pun, and Xiaodong Cun. Explicit visual prompting for low-level structure segmentations. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023. **Project page:** <https://nifangbaage.github.io/Explicit-Visual-Prompt/>.
- [23] Weihuang Liu, **Xi Shen**, Chi-Man Pun, and Xiaodong Cun. Explicit visual prompting for universal foreground segmentations. In *Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 2023. **Project page:** <https://nifangbaage.github.io/Explicit-Visual-Prompt/>.
- [24] Lang Rao, Yuan Yuan, **Xi Shen**, Guocan Yu, and Xiaoyuan Chen. Designing nanotheranostics with machine learning. *Nature Nanotechnology*, 2024.
- [25] Haiyang Xie, **Xi Shen**, Shihua Huang, Qirui Wang, and Zheng Wang. Simrod: A simple baseline for raw object detection with global and local enhancements. In *The Association for the Advancement of Artificial Intelligence (AAAI)*, 2026. **Project page:** <https://ocean146.github.io/SimROD2025/>.
- [26] Di Yang, Mahmoud Ali, Xuanlong Yu, **Xi Shen**, Quan Kong, Gianpiero Francesca, and Francois Bremond. Movie: Broaden your views with human motion for action detection. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2026.
- [27] Yuan Yuan, Yueming Lyu, **Xi Shen**, Ivor W Tsang, and Dit-Yan Yeung. Marginalized average attentional network for weakly-supervised learning. In *International Conference on Learning Representations (ICLR)*, 2019. **Code:** <https://github.com/yyuanad/MAAN>.
- [28] Wenxuan Zhang, Xiaodong Cun, Xuan Wang, Yong Zhang, **Xi Shen**, Yu Guo, Ying Shan, and Fei Wang. Sadtalker: Learning realistic 3d motion coefficients for stylized audio-driven single image talking face animation. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023. **Project page:** <https://sadtalker.github.io/>.
- [29] Yihao Zhi, Xiaodong Cun, Xuelin Chen, **Xi Shen**, Wen Guo, Shaoli Huang, and Shenghua Gao. Livelyspeaker: Towards semantic-aware co-speech gesture generation. In *International Conference on Computer Vision (ICCV)*, 2024. **Project page:** <https://nifangbaage.github.io/Explicit-Visual-Prompt/>.