

# Zhiyu Zhu

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## EDUCATION

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<b>Harbin Institute of Technology</b>	Harbin, China
<i>B.S.</i>	Jun, 2017
<b>Harbin Institute of Technology</b>	Harbin, China
<i>M.S.</i>	Jun 2019
<b>City University of Hong Kong</b>	Hong Kong
<i>Ph.D.</i>	expected Sep 2023

## SHORT BIOGRAPHY

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Zhiyu ZHU is a Ph.D. candidate of computer science at CityU HK. His research interests primarily lie in the field of computer vision, which covers both high-level and low-level topics, i.e., object detection and tracking, as well as image super-resolution and reconstruction. He has also published a number of papers in the prestigious conferences and journals, including, ICCV, Neurips, CVPR, ACM MM, TIP, TCI.

## PUBLICATION

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- **Zhu, Z.**, Hou, J., & Lyu, X. (2022). Learning Graph-embedded Key-event Back-tracing for Object Tracking in Event Clouds. In *Advances in Neural Information Processing Systems*, 2022.
- **Zhu, Z.**, Liu, H., Hou, J., Zeng, H., & Zhang, Q. (2021). Semantic-embedded unsupervised spectral reconstruction from single RGB images in the wild. In *Proceedings of the IEEE/CVF International Conference on Computer Vision* (pp. 2279-2288).
- **Zhu, Z.**, Hou, J., Chen, J., Zeng, H., & Zhou, J. (2020). Hyperspectral image super-resolution via deep progressive zero-centric residual learning. *IEEE Transactions on Image Processing*, 30, 1423-1438.
- **Zhu, Z.**, Liu, H., Hou, J., Jia, S., & Zhang, Q. (2021). Deep amended gradient descent for efficient spectral reconstruction from single RGB images. *IEEE Transactions on Computational Imaging*, 7, 1176-1188.
- Hou, J., **Zhu, Z. (equal contribution)**, Hou, J., Zeng, H., Wu, J., & Zhou, J. (2022). Deep posterior distribution-based embedding for hyperspectral image super-resolution. *IEEE Transactions on Image Processing*, 31, 5720-5732.
- Hou, J., **Zhu, Z. (equal contribution)**, Hou, J., Liu, H., Zeng, H., & Meng, D. (2023). Deep Diversity-Enhanced Feature Representation of Hyperspectral Images. *IEEE Transactions on Pattern Analysis and Machine Intelligence* (Under Review)
- **Zhu, Z.**, Peng, G., Chen, Y., & Gao, H. (2019). A convolutional neural network based on a capsule network with strong generalization for bearing fault diagnosis. *Neurocomputing*, 323, 62-75. (**ESI Highly Cited**)
- **Zhu, Z.**, Bian, Z. P., Hou, J., Wang, Y., & Chau, L. P. (2020). When residual learning meets dense aggregation: Rethinking the aggregation of deep neural networks. *arXiv preprint arXiv:2004.08796*.
- **Zhu, Z.**, Wang, L., Peng, G., & Li, S. (2021). WDA: an improved Wasserstein distance-based transfer learning fault diagnosis method. *Sensors*, 21(13), 4394.
- Zeng, Y., Qian, Y., **Zhu, Z.**, Hou, J., Yuan, H., & He, Y. (2021). CorrNet3D: Unsupervised end-to-end learning of dense correspondence for 3D point clouds. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition* (pp. 6052-6061).
- Zhang, Y., Zhang, Q., **Zhu, Z.**, Hou, J., & Yuan, Y. (2022). GLENet: Boosting 3D Object Detectors with Generative Label Uncertainty Estimation. *International Journal of Computer Vision* (Under Review).
- Chen, Y., Peng, G., **Zhu, Z.**, & Li, S. (2020). A novel deep learning method based on attention mechanism for bearing remaining useful life prediction. *Applied Soft Computing*, 86, 105919. (**ESI Highly Cited**)

- Lyu, X., **Zhu, Z.**, Guo, M., Jin, J., Hou, J., & Zeng, H. (2021, October). Learning spatial-angular fusion for compressive light field imaging in a cycle-consistent framework. In Proceedings of the 29th ACM International Conference on Multimedia (pp. 4613-4621).
- Arad, B., Timofte, R., Ben-Shahar, O., Lin, Y. T. , **Zhu, Z.** ,....(2020). Ntire 2020 challenge on spectral reconstruction from an rgb image. In Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (pp. 446-447).
- Jin, J., Hou, J., **Zhu, Z.**, Chen, J., & Kwong, S. (2020). Deep selective combinatorial embedding and consistency regularization for light field super-resolution. arXiv preprint arXiv:2009.12537.
- Li, S., Peng, G., Mao, D., **Zhu, Z.**, Ji, M., & Chen, Y. (2021). Intelligent Fault Diagnosis Using Limited Data Under Different Working Conditions Based on SEflow Model and Data Augmentation. In Advances in Intelligent Information Hiding and Multimedia Signal Processing: Proceeding of the 16th International Conference on IIHMSP in conjunction with the 13th international conference on FITAT, November 5-7, 2020, Ho Chi Minh City, Vietnam, Volume 1 (pp. 475-484). Springer Singapore.
- A very interesting work will be submitted to ICCV 2023 ☺.

## **SKILLS**

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- Programming languages: Python, C/C++, Matlab and Lua
- Expertise in PyTorch, TensorFlow, familiarity with traditional machine learning libraries
- Other software: 3D modeling with Solidworks, ProE, and GUI Design with Qt, MFC

## **HONORS & REWARDS**

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- Research Tuition Scholarship 2021/2022, CityU
- First-Class Scholarship for recommended graduate, HIT
- Chiang Chen Scholarship, Chiang Chen Industrial Charity Foundation
- CASC Scholarship, China Aero Space Science and Technology Corporation

## **SERVICE**

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- Reviewers of TIP, TCSVT, IJCV, TNNLS, TGRS, ECCV, ICME, ACM MM, VCIP