

# Xue-Qiang Fan, Ph.D.

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🌐 <https://xueqiangf.github.io>



## About Me

I am currently a Ph.D. Candidate major in School of Computer and Information, Information and Communication Engineering, Hefei University of Technology.

- 📌 **Interests:** My research interests include Artificial Intelligence, Machine Learning, and Data Mining. In particular, I am interested in Pattern Recognition, Polarization Vision, Computational Imaging, and Bioinformatics.
- 📌 **Address:** Danxia Road 485, Shushan District, Hefei, Anhui, China.

## Education

- Jun. 2022 – Present 📌 **Ph.D. Hefei University of Technology, Hefei, China**  
Major: *Information and Communication Engineering, School of Computer and Information.* **Advisor: Prof. Zhong-Yi Guo**
- Jul. 2019 – May. 2022 📌 **M.S. Zhejiang University of Technology, Hangzhou, China**  
Major: *Control Science and Engineering, College of Information Engineering.* **Advisor: Prof. Jun Hu.**
- Sep. 2015 - Jun. 2019 📌 **B.S. Henan University of Urban Construction, Pingdingshan, China**  
Major: *Automation, School of Electrical and Control Engineering.* Courses: *Automatic Control Theory, etc..*

## Research Experience

### Zhong-Yi Guo Research Group, Advanced Electromagnetic Function Laboratory (AEMFLab)

June. 2022 – Present 📌 **Interests:** Pattern Recognition, Polarization Vision, Computational Imaging.

### Gui-Jun Zhang Research Group, Intelligent Optimization and Bioinformatics Lab (IOBIO-Lab)

July. 2019 - May. 2022 📌 **Interests:** Pattern Recognition, Bioinformatics.

## Research Publications

(# Contribution equally; \* Corresponding authors)

### Journal Articles (Featured Publications)



- 1 **X. Q. Fan**, B. Lin, and Z. Y. Guo\*, "Infrared polarization-empowered full-time road detection via lightweight multi-pathway collaborative 2D/3D convolutional networks," *IEEE Trans. Intell. Transp. Syst.*, In press, 2024. 🌐 DOI: 10.1109/TITS.2024.3383405.
- 2 **X. Q. Fan**, B. Lin, J. Hu\*, and Z. Y. Guo\*, "Ense-i6mA: Identification of DNA N6-methyladenine sites using XGB-RFE feature selection and ensemble machine learning," *IEEE/ACM Trans. Comput. Biol. Bioinf.*, In press, 2024. 🌐 DOI: 10.1109/TCBB.2024.3421228.
- 3 **X. Q. Fan**, W. Y. Chen, B. Lin, P. Peng, and Z. Y. Guo\*, "Improved polarization scattering imaging using local-global context polarization feature learning framework," *Opt. Lasers Eng.*, vol. 178, p. 108 194, 2024. 🌐 DOI: 10.1016/j.optlaseng.2024.108194.

- 4 **X. Q. Fan**, B. Lin, K. Guo, B. Y. Liu, and Z. Y. Guo\*, "TSMPN-PSI: High-performance polarization scattering imaging based on three-stage multi-pipeline networks," *Opt. Express*, vol. 31, pp. 38 097–38 113, 2024. [DOI: 10.1364/OE.501269](https://doi.org/10.1364/OE.501269).
- 5 B. Lin, **X. Q. Fan**, P. Peng, and Z. Y. Guo\*, "Dynamic polarization fusion network (DPFN) for imaging in different scattering systems," *Opt. Express*, vol. 32, pp. 511–525, 2024. [DOI: 10.1364/OE.507711](https://doi.org/10.1364/OE.507711).
- 6 **X. Q. Fan**, B. Lin, J. Hu\*, and Z. Y. Guo\*, "I-DNAN6mA: Accurate identification of DNA N6-Methyladenine sites using the base-pairing map and deep learning," *J. Chem. Inf. Model.*, vol. 63, no. 3, pp. 1076–1086, 2023. [DOI: 10.1021/acs.jcim.2c01465](https://doi.org/10.1021/acs.jcim.2c01465).
- 7 B. Lin, **X. Q. Fan**, and Z. Y. Guo\*, "Self-attention module in multi-scale improved U-net (SAM-MIU-net) motivating high-performance polarization scattering imaging," *Opt. Express*, vol. 31, no. 2, pp. 3046–3058, 2023. [DOI: 10.1364/OE.479636](https://doi.org/10.1364/OE.479636).
- 8 **X. Q. Fan**, J. Hu\*, Y. X. Tang, D. J. Yu\*, and G. J. Zhang\*, "Predicting rna solvent accessibility from multi-scale context feature via multi-shot neural network," *Analytical Biochemistry*, vol. 654, p. 114 802, 2022. [DOI: 10.1016/j.ab.2022.114802](https://doi.org/10.1016/j.ab.2022.114802).
- 9 **X. Q. Fan**, J. Hu\*, N. X. Jia, D. J. Yu\*, and G. J. Zhang\*, "Improved protein relative solvent accessibility prediction using deep multi-view feature learning framework," *Analytical Biochemistry*, vol. 631, p. 114 358, 2021. [DOI: 10.1016/10.1016/j.ab.2021.114358](https://doi.org/10.1016/10.1016/j.ab.2021.114358).

## Miscellaneous Experience




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### Awards and Achievements

- 2022-2024  **The Scholarship for a Doctor's degree**, Awarded by Hefei University of Technology.
- 2019-2022  **The Scholarship for a Master's degree**, Awarded by Zhejiang University of Technology.

### Skills

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- Programming Languages  Python, Linux Shell Script, Matlab, Java,  $\LaTeX$ , ...
- Misc.  Academic research,  $\LaTeX$  typesetting, ...
- Hobbies  Running, Road Cycling, Folk Music, Movie, ...