

# Fan Wu

University of Science and Technology of China, Anhui 230026, China

+(86) 15207101039 ♦ [wf18@mail.ustc.edu.cn](mailto:wf18@mail.ustc.edu.cn)

♦ <https://github.com/xufanzuo>

## EDUCATION

---

### University of Science and Technology of China

M.S. in University of Science and Technology of China,  
Software Engineering, GPA: (3.24/4.3). (83/100)

*September 2018 - present*

### Huazhong Agricultural University

B.S. in Huazhong Agricultural University,  
Agricultural Mechanization and Automation

*September 2014 - June 2018*

### Huazhong Agricultural University

B.S. in Huazhong Agricultural University,  
Plant Science and Technology

*September 2013 - June 2014*

## HONORS / AWARDS

---

Optical remote sensing satellite data algorithm competition - First Prize

*2019*

Outstanding graduate, Huazhong Agricultural University

*2018*

National Encouragement Scholarship, Huazhong Agricultural University

*2017*

4th National College Student Agricultural Construction Competition - First Prize

*2016*

## PUBLICATIONS

---

– **Published** *student first author*

*April 2019*

Z. Zhu, **Fan Wu**, J. Cao, X. Li and G. Jia, "A Thread-Oriented Memory Resource Management Framework for Mobile Edge Computing," in IEEE Access, vol. 7, pp. 45881-45890, 2019, doi: 10.1109/ACCESS.2019.2909642. (SCI) (IF 4.098)

– **Accepted**

*June 2020*

**Fan Wu**, Zhuoqun Xu, Huanghe Liu and Zongwei Zhu. Machine learning agricultural application based on the secure edge computing platform. // 3rd International Conference on Machine Learning for Cyber Security (ML4CS 2020) (EI)

– **Under review**

*September 2020*

**Fan Wu**, Huanghe Liu, Zongwei Zhu, Cheng ji and Chun Xue, "Overcoming Memory Constraint for Improved Target Classification Performance on Embedded Deep Learning Systems" (HPCC)(EI)(CCF-C)

– **Grant of invention patents** *student first author*

*August 2018*

Jia Wei , **Fan Wu** , and Zhuoqun Xu, etc. Manipulator suitable for bird egg grabbing. Public (Announcement) Number: CN105798941B (Chinese Invention Patent)

– **Accepted**

*August 2020*

Zhuoqun Xu, **Fan Wu**, Liying Zhu and Yi Li. LSTM Model Based on Multi-Feature Extractor to Detect Flow Pattern Change Characteristics and Parameter Measurement, IEEE sensors Journal. (SCI) (IF 3.076)

– **Accepted**

*September 2020*

Zhuoqun Xu, **Fan Wu**, Yiyuan Yang and Yi Li. ECT Attention Reverse Mapping Algorithm: Visualization of Flow Pattern Heatmap Based on CNN and Its Impact on ECT Image Reconstruction, Measurement Science and Technology. (MST) (SCI) (IF 2.071)

– **Published**

February 2020

Zhuoqun Xu, **Fan Wu**, Ximmeng Yang and Yi Li, "Measurement of Gas-Oil Two-Phase Flow Patterns by Using CNN Algorithm Based on Dual ECT Sensors with Venturi Tube." *Sensors*, 2020, 20(4): 1200. (SCI) (IF 3.275)

– **Under review**

February 2020

Zhuoqun Xu, **Fan Wu** and Xue Gong. Convolutional neural network: Trajectory planning and motion control of the three-degree-of-freedom logistics sorting parallel manipulator. (*Robotics and Autonomous Systems*) (IF 2.825)

## PROJECTS / RESEARCH EXPERIENCE

---

### **Object Detection based on Nvidia TX2**

November 2018 - June 2019

*Based on the yolov3 model, a combination of channel pruning and layer pruning are used. And finally ported to TensorRT.*

- Use pytorch for *YOLOV3* training and pruning to reduce the size of the yolov3 model to less than 100MB;
- For the *YOLOV3* detection layer, separately write code processing, mainly including anchor and nms implementation to improve the running speed of the CPU.
- Write a C++ program to recognize and process the video file or camera input frame by frame and display the recognition result in real time. The image processing part uses opencv.

### **Cambrian (MLU100) Deep Learning algorithm transplantation**

September 2018 - August 2019

*Transplant the cnn model to the Cambrian computing card, and write the corresponding demo (target recognition, classification, face recognition, vehicle detection, etc.).*

- Write a C++ program to recognize video files or picture lists.
- Three threads are used to process image reading and preprocessing, model reasoning, and result writing back, use queues for data buffering, and copy data from board memory and main memory.

## SKILLS

---

- **Programming language:** familiar with C++ / Python, having knowledge of Linux OS, Git.
- **Machine learning:** proficient in numpy, matplotlib, having knowledge of Libtorch and TensorRT.
- **Distributed:** have experience in learning and using Docker and KubeFlow.