

Ms. Xin WU



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🌱 *Keep the passion for all research. Craftsmanship spirit, engineering mindset.*

EDUCATION

Wuyi University (MEng) **Sep 2021 - June 2024**

➤ Computer Technology, Average Score: 87.01/100.00 (Top 2% at WYU)

Chongqing University of Education (BEng) **Sep 2016 - June 2020**

➤ Computer Science and Technology, GPA: 4.2/5.00 (Top 1% at CQUE)

RESEARCH EXPERIENCE

Application of Meta-Learning in Diagnosing the State of Five Zang Organs in Traditional Chinese Medicine, 2021 Guangdong Province Key Field Special Project (Natural Science)

Supervisors: Prof. Yue Feng **Sep. 2022- May. 2024**

- **Description:** Developing a clinical database to digitize TCM's five Zang organs' characteristics, using AI for objective diagnostic methods and meta-learning algorithms.
- **My Role:** Research and implementation of TCM tongue diagnosis, while also assisting in facial and pulse diagnosis research, including image annotation, data preprocessing, model construction, and deployment.
- **Achievements/Conclusions:** Accumulated extensive practical experience. (Tongue diagnosis) AUC of 84.56%, overall F1 score of 84.12%, average F1 score per category of 64.32%, and model speed of 0.7s.

Intelligent TCM Research Intern (Jiangmen Central Hospital) **Internship**
Supervisors: Prof. Yue Feng and Dr. Shuangsheng Zhang **Sep. 2022-July. 2023**

- **Collection and Annotation:** Captured images of patients' tongues using a TCM tongue diagnosis device. Annotated the collected tongue diagnosis images using the LabelMe tool.
- **Augmentation:** Utilized OpenCV for rotation, translation, scaling, and flipping to expand the dataset and increase the diversity of image samples.
- **Segmentation:** Employed an attention pooling (MPA-Net) combined with FPN method, with the network model built on the MMSegmentation framework.
- **Results:** Achieved an accuracy of 99.84%, a 0.11% improvement over UNet, with an average Dice coefficient of 98.91%, a 0.78% improvement over UNet.

PUBLICATIONS

- [1] [Xin Wu](#), Yue Feng[✉], Xu Hong, Zhuosheng Lin, Tao Chen, Shengke Li, Shihan Qiu, Qichao Liu, Yuangang Ma, Shuangsheng Zhang. **CTransCNN: Combining Transformer and CNN in Multilabel Medical Image Classification**[J]. *Knowledge-Based Systems*, 2023, 281: 111030. (IF 8.8, Top, CCF-C, Achieved paper acceptance in just over two months, Cited 11 times as of May 2024)
- [2] [Xin Wu](#), Yue Feng[✉], Xu Hong, Zhuosheng Lin, Shengke Li, Shihan Qiu, Qichao Liu, Yuangang Ma. CheXNet: Combining Transformer and CNN for Thorax Disease Diagnosis

from Chest X-ray Images[C]//Chinese Conference on Pattern Recognition and Computer Vision (PRCV). Singapore: Springer Nature Singapore, 2023: 73-84. (CCF-C, Cited 1 times as of May 2024)

- [3] Xin WU, Hong XU, Zhuosheng LIN, Shengke LI, Huilin LIU Yue FENG✉. Review of deep learning in classification of tongue image[J]. Journal of Frontiers of Computer Science & Technology, 2023, 17(2): 303. (Cited 10 times as of May 2024)

PATENS

- [1] Yue Feng, Xin Wu, Xu Hong, Tao Chen, Zhuosheng Lin, Yuangang Ma, Qichao Liu. CONSTITUTION MULTI-LABEL CLASSIFICATION METHOD, DEVICE AND MEDIUM. (Authorized, 2023/09475)
- [2] Yue Feng, Xin Wu, Xu Hong, Sufen Liang, Shengke Li, Jiajian Zhu, Qichao Liu, Yuangang Ma. Tongue diagnosis method, equipment and medium. (Accepted, CN202211131323.5)

SKILLS & SPECIALTY

Programming: Python (Good), Bash (Good), MATLAB, C++, JavaScript, CSS, Markdown.

Tools: LaTeX, Git, Linux, Cloud, Docker, Conda, ORGIN.

Specialty: Playing basketball. (Championship of women's basketball at the 5th Ball Games of Chongqing University of Education in November 2017)

AWARDS & SERVICES

Third Prize (Top 5%) in the 2018 Microsoft "Innovation Cup" Global College Student Technology Competition, China Region (Top 36 nationwide). **Sep. 2018**

Outstanding Award (Top 10%) in the Fourth "Internet+" Innovation and Entrepreneurship Competition, Chongqing. **Nov. 2018**

Third Prize (Top 10%) in the "Chuang Qing Chun" College Student Innovation and Entrepreneurship Competition, Chongqing. **Aug. 2018**