Zeqiang Wang

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Education

- **University of Surrey** — Guildford, UK
  Ph.D - Faculty of Engineering and Physical Sciences; — *2023 - present*
  Topic: *Natural Language Processing for Longitudinal Social and Biomedical Science Datasets*
- **University of Liverpool** — Suzhou, China
  Master of Research - Computer Science and Technology; — *2022 - 2023*
  Courses: *Data Mining and Big Data Analytics, Machine Learning*
- **Hunan Agricultural University** — Changsha, China
  Bachelor - Computer Science and Technology(Honor Class); — *2017 - 2021*
  Courses: *Operating Systems, Data Structures, Analysis Of Algorithms, Artificial Intelligence, Machine Learning, Networking, Databases*

Experience

- **Peking University First Hospital** — Ningbo, China
  Visiting Student — *Oct 2022 - Apr 2023*
  - **Topic**: Validation of Risk Prediction Equations for Incident Chronic Kidney Disease.
- **Zhejiang University** — Hangzhou, China
  Research Assistant — *June 2021 - Sep 2022*
  - **Topic**: Medical Named Entity Recognition and Medical Score Automatic Construction System.
- **Xiaoxiang Research Institute of Big Data** — Changsha, China
  Research Assistant Intern — *Sep 2018 - June 2020*
  - **Topic**: Botanical Classification and Recognition based on Computer Vision.

Projects

- **METS-CoV: A Dataset of Medical Entity and Targeted Sentiment on COVID-19 Related Tweets (Dataset)**: Label the sentiment of focused entities (Drug, Vaccine, Person, Organization) in COVID-19 related tweets, and the final agreement is 78.4% in accuracy
- **YATO: Yet Another deep learning based Text analysis Open toolkit (Sequence Labeling and Classification)**: Refactored and redeveloped NCRF++, optimizing its Pre-trained Language Model.YATO focuses on sequence labeling and classification tasks, including extensive fundamental NLP tasks such as part-of-speech tagging, chunking, NER, CCG super tagging, sentiment analysis, and sentence classification.
- **Machine Learning-based Prediction of Chronic Kidney Failure (Clinical Data, Pathology Image Recognition)**: Through the extraction and collation of clinical data from examination reports, we employ machine learning techniques to predict patients' likelihood of progressing to specific health outcomes. Furthermore, we compare the merits and drawbacks of an algorithm-based recognition approach to pathology images versus a manual recognition-based approach within our model.
- **Botanical Classification and Recognition based on Computer Vision (Image Classification and Detection)**: Focusing on the classification of cross-sectional images of bamboo species, detection and segmentation algorithms were further used to calculate morphological parameters of the cross-sectional images: the number of water transport channels (vascular bundles) and the percentage of supporting cells attached around the tubes in the cross-sectional area (tissue ratio) of the bamboo species.

Publications

- **ICDXML: Enhancing ICD Coding with Probabilistic Label Trees and Dynamic Semantic Representations**: *Under Review*
- **Zero-Shot Medical Information Retrieval via Knowledge Graph Embedding**: *CIKM 2023 International Workshop on Internet of Things of Big Data for Healthcare https://arxiv.org/abs/2310.20588*
- **YATO: Yet Another deep learning based Text analysis Open toolkit**: *EMNLP 2023 System Demonstration https://arxiv.org/abs/2209.13877*
- **METS-CoV: A Dataset of Medical Entity and Targeted Sentiment on COVID-19 Related Tweets**: *NeurIPS 2022-Track on Datasets and Benchmarks https://arxiv.org/abs/2209.13773*
- **Detecting Table Based on YOLOv3 and Morphological Function**: *Computer Literacy and technology,14-16. doi:10.14004/j.cnki.ckt.2021.0005.*

Honors and Awards

- Outstanding Graduates of Hunan Province - 2021
- Excellent graduation thesis of Hunan Agricultural University - 2021
- First-class Scholarships of Hongcheng Science and Technology - 2020
- Baidu-Ministry of Education Innovation Venture Fund - 2019
- Google-Ministry of Education Innovation Venture Fund - 2019
- Hunan Agricultural University Innovation Venture Fund - 2018
- AIIA Cup: National Winner Award, Hunan Province First Prize - 2019; 2020
- Beidou Cup: Central South Division Third Prize - 2020
- Lugu Intelligent Navigation Competition: Hunan Province Second Prize - 2019
- Changsha Science and Technology Innovation Competition: Undergraduate Group Winner Award - 2020

Teaching and Volunteer Experience

- **Artificial Intelligence Association of Hunan Agricultural University** — Changsha, China
  Created the Artificial Intelligence Association to develop over 200 members. — *June 2019 - June 2020*
- **Artificial intelligence(INT104), Neural networks(DTS101)** — Suzhou, China
  Teaching Assistant - Xi 'an Jiaotong Liverpool University. — *March 2023 - June 2023*

Certifications

- **Oracle Java** — Changsha, China
  Oracle Certified Professional (OCP) Java SE 8 Programmer.
- **Huawei HCIA-Kunpeng** — Changsha, China
  Huawei HCIA-Kunpeng Application Developer.