Yuxiang Wang

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Education

- **Southwest University** — Chongqing, China
  Bachelor of Engineering - Computer Science and Technology; GPA: 3.9/5.0 (15/120) — *September 2016 - June 2020*
- **Johns Hopkins University** — Baltimore, US
  Master of Engineering - Data Science; GPA: 4.0/4.0 — *September 2020 - January 2022*

Publications

- L Liu, M Gao, Y Zhang, Y Wang, "Application of machine learning in intelligent encryption for digital information of real-time image text under big data," EURASIP Journal on Wireless Communications and Networking, 2022, pp. 1-16
- Y. Wang, Y. Zhang, X. Li, Xinyao Yu, "COVID-19 Fake News Detection Using Bidirectional Encoder Representations from Transformers Based Models", arXiv, 2021.
- W. Wang, J. Cai, J. Xu, Y. Wang, Y. Zou, "Prediction of the COVID-19 Infectivity and the Sustainable Impact on Public Health under Deep Learning Algorithm," Soft Computing, 2021, pp. 1-10.
- Y. Wang, "Academic Supervision and Risk Assessment Based on Moodle LMS Data," 2019 International Conference on Robots & Intelligent System (ICRIS), 2019, pp. 261-264.
- Y. Wang, "Prediction of PM2.5 Concentration in Chengdu Based on Improved BP Neural Network," International Conference on Machinery, Materials and Computing Technology (ICMMCT), 2019, pp. 103-108.
- Y. Wang, "Development of Machine Dictionary for Natural language Processing," China Computer and Communication, 2019, 000.015: pp. 37-38.

Patents

- **AI model encryption and decryption system MindX 3.0.0**: AI Model Security Team. National Speech and Image Recognition Product Evaluation Certificate (November 2022)
- **Improved Computer Monitor**: Yuxiang Wang. Appearance Invention Patent (April 2019)
- **Jianzhisheng College Student Part-time Job System V1.0**: Yuxiang Wang, Zhengtong Tan, Zipeng Li. Software Copyright (February 2019)
- **Student self-management system V1.0**: Yuxiang Wang. Software Copyright (November 2017)

Projects

- **AI Model Security System (July 2022-Present)**
  - Participated in the design of AI model protection features and wrote core code including both front-end and back-end
  - Designed and implemented the keys management modules in trusted execution environment (TEE) scenario
- **Named Entity Recognition on IEEE Xplore scholarly documents (June 2021-August 2021)**
  - Specialized in abstracts within sub-fields of the CS field and designed our own annotation scheme
  - Pre-trained a BERT-based model using IEEE corpus and explored other deep learning models, for example, XLNET and GPT-3 to further improve the performance of existing models
  - Explored the CRF task as a sub-project using the SetSimilarity plus Bert-based embedding approach
- **Covid-19 Fake News Detection using BERT (May 2021)**
  - Fine-tuned the pre-trained BERT model as our base model
  - Added BiLSTM and CNN layers on the top of fine-tuned BERT model with frozen parameters and not frozen parameters methods respectively
- **Detector of Offensive Language and Hate Speech for Tweet (November 2020)**
  - Preprocessed tweet text using skip-gram based word2vec method, LIWC, and LDA feature extraction
  - Combined extracted features with SVM, logistics, and neural network models to achieve text multi-classification tasks
- **LMS Prototype of Student Performance Predication Model (September 2018-June 2019)**
  - Applied skills of processing and analyzing big data (included data mining, multiple linear regression and correlation analysis, etc.)
  - Analyzed students' scores, class times and failure rates, and the data came from a platform that already running in certain universities in Chongqing
- **Influence Model of Bicycle Sharing on the City (November 2018)**
  - Evaluated the development status of shared bicycles in New York City from multiple dimensions such as transportation and economy, mainly using analytic hierarchy process (AHP) to build a model
  - Used the model to predict trends in future of shared bikes and predicted the status if there is no shared bicycles

- Analyzed the impact of shared bicycles specifically on the economic development and establishing a corresponding model based on a weighted function which defined by ourselves

- **Restoration of Motion Blur Pictures (May 2018)**
  - Explored the restoration of motion blurred images and detected the fuzzy region and extracted them
  - Restored the images by filtering related methods (included Butterworth filter, Radon transformation, etc.)
  - Took responsibility for creation and finding solutions of point extension functions and writing related documents
- **Intelligent Lighting——Automatic Coloring and Restoration System for Old Photos (May 2018)**
  - Made the implementation of the system, which was mainly based on the training of a large number of sample pictures by convolutional neural networks
  - Enabled automatic coloring or restoration of old photos, as well as black and white comics coloring(This system had a certain commercial value)
  - Undertook the market demand research of the platform and completed the front pages implementation
- **University-sponsored Scholarly Exchange to Auckland University (July 2018)**
  - Studied some CS-related courses in the Department of Computer and Statistics of the University of Auckland, including R language data analysis, data mining, etc
  - Participated in the project team about handwritten digit recognition (won the honor of the excellent team)
  - Used three methods to solve related problems, which were linear fitting, logistic regression and kernel regression by R language platform with high prediction accuracy
- **Search Extension Project (September 2017-January 2018)**
  - Collected some course information of Netease Online Open Courses through python crawler
  - Used natural language processing related methods: word segmentation, doc2vec to classify and sort the collected data
  - Encapsulated the results into API, through which users can call this whole project and enter keywords to get the most suitable course information

Honors and Awards

- Outstanding Graduate of Southwest University - May 2020
- First Class Scholarship of Southwest University - 2017-2019
- Merit Student of Southwest University - 2017-2019
- Second Class Scholarship of Southwest University - 2016-2017
- Provincial Second Prize in China Undergraduate Mathematical Contest in Modeling - September 2019
- Honor Prize in Asia and Pacific Mathematical Contest in Modeling - November 2018
- Second Prize in Chongqing Database Programming Competition - June 2018
- First Prize in Mathematical Modeling of SWU - May 2018
- Provincial First Prize in China College Student "Innovation, Originality and Entrepreneurship" Challenge - May 2018

Work Experience

- **Huawei Technologies Co., Ltd** AI Engineer
  July 2022 - Present
  - **AI Model Security System**: Completed the design and implementation of some important features in this system. Please refer to the project section for details
  - **Security Penetration Testing**: Conducted security penetration testing on existing modules, finding multiple security vulnerabilities, and helped code security reinforcement
  - **Results**: Improved programming and penetration testing skills and helped the system to get the patent
- **Oracle Chengdu Branch** Information Analyst (Intern)
  July 2019 - August 2019
  - **Data Processing and Visualization**: Studied the processing methods (ADW through sql developer) and data visualization of big data (Oracle DV)
  - **Data Analysis**: Participated in the data analysis of the road traffic accident details in a certain area in 2018 and the registration data analysis of a certain hospital in Chengdu
  - **Results**: Completed the above two projects and made the analysis reports for the relevant companies
- **Chengdu Calabar Information Technology Corp., Ltd.** Computer Technician (Intern)
  July 2018 - August 2018
  - **NLP Related Learning**: Studied related technologies of natural language processing in the development department
  - **Results**: Participated in the establishment of the knowledge graph system framework in the department

Skills

- **Languages**: Golang, Python, R, C, C++, HTML, CSS, PHP, JAVA, SQL, assembly language
- **Frameworks**: Pytorch, Scikit, NLTK, SpaCy, Keras, Gin, Flask, Vue
- **Tools**: Docker, K8s, GIT, MySQL, SQL Server, Visual Studio, Anaconda, MyEclipse, Rstudio, Wampserver
- **Platforms**: Linux, Windows, Ubuntu, AWS, Tencent Cloud, Oracle ADW
- **Soft Skills**: Teamwork, Leadership, Event Management, Writing, Public Speaking, Time Management