

## Education

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**Zhengzhou University**  
*M.S. in Biology and Medicine*

*Henan, China*  
*Sep. 2021 – Jun. 2024(exp)*

**Zhengzhou University**  
*B.S. in Software Engineering*

*Henan, China*  
*Sep. 2017 – Jun. 2021*

## Projects

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### **De novo design of DNA binding proteins learn from bacterial chromosome segregation system.**

*2023-Present*

- *M.S. thesis.*
- Mining the public bacteria genome (Sum:84768), and the rules of co-evolution between DNA regulatory element and its cognate DNA binding proteins.
- De novo protein design with restricted DNA sequence specificity, for the purpose of site specific chromatin remodeling in eukaryotic genome.

### **ATAC-seq and RNA-seq analysis in primary human Gastric Intestinal Metaplasia**

*2022*

- *Responsible for bioinformatics analysis.*
- I discovered potential genes such as NKX6-3, HNF4A-AS1 of epigenetic changes leading to gastric metaplasia.
- In addition, the  $\beta$ -catenin(the Wnt signaling pathway in which NKX6-3), CDX2, and AP-1 binding complex, enhance ALPP transcription, which in turn affects *Intestinal Metaplasia*. This hypothesis is currently in the validation phase and will be published.

### **Dynamic credit assessment system for enterprises in Henan Province based on big data.**

*2019*

- *Project Leader of the student.*
- Combined with the polarity analysis of enterprise news by BERT, a credit evaluation model is established and a web platform integrating query, display, and credit evaluation is designed based on Java development.

## Publication

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Si, Y<sup>\$</sup>, **Wu, W<sup>\$</sup>**, Xue, X., Zhuo, Z., Mi, Y., Zheng, P. The evolution of SARS-CoV-2 and the COVID-19 pandemic. PeerJ 2023, Co-first author, DOI: <https://doi.org/10.7717/peerj.15990>.

**Wu, W.**, Y. Wang, S. Xu., K. Yan. SFNN: Semantic Features Fusion Neural Network for Multimodal Sentiment Analysis. CACRE 2020, DOI: <https://doi.org/10.1109/CACRE50138.2020.9230015>

Ye, S., Li, C., Zhao, R., **Wu, W.** NOAA-LSTM: A New Method of Dialect Identification. In International Conference on Artificial Intelligence and Security. ICAIS 2019, DOI: [https://doi.org/10.1007/978-3-030-24274-9\\_2](https://doi.org/10.1007/978-3-030-24274-9_2)

**Wu, W<sup>\$</sup>**, Liu, B<sup>\$</sup>, Zhang, Qing., Zhang, X., Miao, J., Xue, X., Feng, P. Meta-analysis of Vector-based Immunotherapy for Multi-Cancer. *Frontiers in Immunology. Major revision.*

Liu, B<sup>\$</sup>, **Wu, W<sup>\$</sup>**, Yuan, W., Xue, X., Mi, Y., Zheng, P. Senescence related genome-wide Mendelian randomization identifies putatively causal genes for multiple cancer types. *under review.*

Liu, S<sup>\$</sup>, **Wu, W<sup>\$</sup>**, Xue, X<sup>\$</sup>, Mi, Y., Zheng, P., Peng, Y. A transcriptional and regulatory map of human Gastric Intestinal Metaplasia. *manuscript preparation.*

## Experience

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### Zhengzhou Digital Technology Co., Ltd

Mar 2021 – Oct 2021

- *Backend development engineer intern.*
- Solo development backend for reporting *Nucleic Acid Test* data in hospitals; participated in the construction of the '731 Zhengzhou Nucleic Acid Test' data platform, with a data volume of 50 million.

### Computer Club of Zhengzhou University

Sep 2018 – Jun 2019

- *President.*
- Served as president of the association and organized many computer clinics and knowledge seminars.

## Certifications

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- Second place in the multimodal emotion recognition track of the 'KDDI' AI algorithm competition (Rank:2/456).
- China University Computer Challenge "Network Technology Challenge", Second Prize in Central China Region.
- ACM Programming Competition, Zhengzhou University, First Prize.
- "Challenge Cup" National Competition of Extracurricular Academic Science and Technology Works for University Students, First Prize in Henan Province.
- Zhengzhou University SmartTrack Challenge, Second Prize.
- Zhengzhou University Youth APP Design, Second Prize.
- Li, C., Li, H., Wang, Y., **Wu, W.**, et al. Multimodal driver emotion-assisted regulation method, CN202010157896.
- **Wu, W.**, et al. Speech Recognition System, Software copyright, 2019SR1187334
- "Coretronic Cup" Future Car Human-Machine Interaction Design Competition, 7<sup>th</sup> (Top 0.1%).
- Zhengzhou University Postgraduate, First Prize of Graduate Scholarship.

## Skills

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**Languages** : Python, Java, R.  
**Frameworks** : Pytorch  
**Others** : Linux, ATAC-seq, RNA-seq, Sql.