# Curriculum Vitae


## Yanwei Jin

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## Education

**Peking University** 2017/09 – 2022/07
Bachelor of Science in Nursing Beijing, China
**Relevant Courses:** Epidemiology, Probability and Statistics, Linear Algebra, Advanced athematics, Data Science, etc.

## Research Experience

**Blood Glucose Estimation** 2023/11 – Present
Research Assistant, Supervisor: Prof. Kannie WY CHAN Hong Kong
- Created a comprehensive protocol for research and experiments.
- Implemented efficient monitoring using Contour Plus Elite.

**Multi-Modal Epilepsy Prediction** 2023/10 – Present
Research Assistant, Supervisor: Prof. Raymond HF CHAN, Prof. Bee Luan KHOO Hong Kong
- Identified suitable open-access datasets, focusing on EEG channels.
- Used EEGLab and DWT for feature extraction from EEG data.
- Explored deep learning for feature extraction from multi-modal signals.

**Multi-Modal Blood Pressure Estimation** 2023/08 – Present
Research Assistant, Supervisor: Prof. ZHANG Yuanting Hong Kong
- Handled the preprocessing of the multi-modal data, ensuring its suitability for analysis.
- Extracted relevant features from the data and normalized them for consistency.
- Conducted extensive evaluations of different machine learning models for blood pressure estimation.

**Cardiovascular Disease Classification** 2023/06 – Present
Research Assistant, Supervisor: Dr. CHEN Hanjie Hong Kong
- Identified cardiovascular diseases (CVD) subjects based on ICD codes.
- Explored the construction of a knowledge graph to identify potential associations with the CVDs' occupation.

**Cuffless Blood Pressure Estimation using PPG and ECG** 2023/01 – 2023/06
Research Assistant, Supervisor: Prof. ZHANG Yuanting Hong Kong
1. Replicating Research on Blood Pressure Estimation:
   - Preprocessed a dataset of 600 patients from the MIMIC-II database.
   - Extracted 13 essential features from the PPG and ECG signals.
   - Applied LSTM, GRU, RF, and Linear models in BP estimation.
2. Investigating the Relationship Between PPG, ECG, Reference BP, and Estimated BP:
   - Utilized LSTM and Random Forest (RF) models for estimating blood pressure waveforms.
   - Calculated the correlation coefficient for Ref BP & Est BP, PPG & Est BP, and ECG & Est BP.
3. Optimal Feature Set for Blood Pressure Estimation:
   - Conducted the introduction and statistical analyses of a published article: Beat-to-beat continuous blood pressure estimation with optimal feature set of PPG and ECG signals using deep recurrent neural networks.

**Construction of a Knowledge Graph-Based Chronic Disease Prediction Model and Health Management Pathway in the Context of Big Data** 2022/01-2023/01
National Natural Science Foundation of China, Supervisor: Prof. SUN Hongyu Beijing
- Utilized Selenium and Requests to extract chronic disease risk factors from web content.
- Analyzed the collected data through natural language processing.
- Constructed a knowledge graph related to chronic disease risk factors and health management.

**Public Risk Perception and Emotional Guidance Under Major Public Health Emergency** 2021/07 – 2022/07
Beijing Natural Science Foundation Committee, Supervisor: Prof. SUN Hongyu Beijing
1. Public Reaction to COVID-19:

- Conducted a comprehensive literature review on COVID-19-related literature, focusing on public risk perception and coping behaviors. Conducted quality assessments and extracted relevant content.
- Utilized Stata for meta-analysis, subgroup analysis, and meta-regression, summarizing findings and identifying sources of heterogeneity within included literature.
- Executed sensitivity analyses and Egger's tests to ensure the robustness of research outcomes.
- Consolidated the above findings and authored a paper as the first author. This paper received citations from the World Health Organization (WHO).

2. Healthcare Providers' Responses during Public Health Emergencies:
   - Developed an interview protocol for interactions with healthcare providers and conducted interviews in Beijing to collect research materials.
   - Applied Colaizzi's 7-step analysis method and utilized NVIVO for key information extraction.
   - Formulated a time-based risk perception model.
   - Contributed to the paper's development process.

## Publications

- Chen H, Lyu L, Zeng Z, Jin Y, Zhang Y. Beat-to-beat continuous blood pressure estimation with optimal feature set of PPG and ECG signals using deep recurrent neural networks. Vessel Plus. 2023; 7: 21. doi:10.20517/2574-1209.2023.30
- Jin YW, Sun HY, Ji Y. Public risk perceptions and coping behaviors in novel coronavirus pneumonia outbreaks: a systematic review[J]. Chinese Journal of Nursing Education, 2023,20(5): 614-619.
- Li YQ, Gu JN, Sun YM, Shao J, Dang Y, Guo JM, Jin YW, Hu GY, Sun HY. Evolution of risk perception of medical staff during public health emergencies: a qualitative study[J]. Modern Clinical Nursing,2022,21(08):43-47.

## Work Experience

**Peking University First Hospital** 2021/07 – 2022/05
Nurse Trainee, Supervisor: GUO Hongyan Beijing
- Rotated through various hospital wards and completed clinical nursing operations.

## Extracurricular & Activities

- Participated in an enterprise survey on innovation and entrepreneurship of Chinese people as Quality Control Specialist (2020).
- Participated in many academic salons of public health (2020).
- Organized a Hong Kong-Guangdong cultural exchange activity and won the third prize in the Summertime Social Practice Project of the Student Associates (2019).
- Served as president of the DNA Club which won the title of "Outstanding Student" (2019).
- Worked as a faculty assistant and won the title of "Outstanding Student" in Peking University (2018).
- Served as Minister of Publicity in the college Students' Union of Peking University (2018).

## Awards & Honors:

- Second Prize in Peking University Public Medical Science Education Competition (2021).
- Third Prize in National College Student Challenge Cup Competition for an ankle dynamometer (2021).
- Third Prize of Peking University Nursing + X Innovation Design Competition (2021).
- First Prize in National College Student Innovative Experimental Project (2020).
- Second Prize of Social Practice in Peking University Powerful Action Plan (2020).
- Second Prize of Consultation Competition in Peking University Health Science Center (2020).
- Best Team Award of Consultation Competition in Peking University Health Science Center (2020).
- Second Prize in Beijing Contest District in China Undergraduate Mathematical Contest in Modeling (2019).
- Peking University Social Welfare Scholarship (2019).
- Outstanding Organization Award of Peking University Club (2018).

## Skills

- **Programming**: Python (NumPy, pandas, scikit-learn, TensorFlow, Keras, PyTorch), R, SQL.
- **Tools**: VS code, Git, LaTeX.
- **Data Analysis**: Statistical Analysis, Machine Learning, Natural Language Processing.

- **Languages**: Fluent in English and Mandarin Chinese.