Yuxiao Li

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EDUCATION

- **Rensselaer Polytechnic Institute**　　　　　　　　　　　　　　　　　NY, US
  B.S. in Computer Science　　　　　　　　　　　　　　　　　　　*Sept 2019 - May 2023*
  Courses: *Data Structure, Principle of Software, Operating System, Design & Analysis of Algorithm, Software Design & Documentation, Programming Languages, Data mining, Database Systems, Intro to Machine Learning Applications, Frontiers of Network Science, Graph Theory, Intro to AI, Machine Learning & Optimization, Numerical Computing*

EXPERIENCE

- **University of Oxford Lab**　　　　　　　　　　　　　　　　　　　Remote
  Undergraduate Research Assistant, Professor: Dr. Jing He at University of Oxford　　*June 2022 - January 2023*
  - **Medical Evaluation Knowledge Graph Construction and Structure Verification**:
    Constructed a comprehensive knowledge graph for medical evaluation, focusing on the management of complex data.
    Verified the structure and connectivity of the knowledge graph, ensuring accuracy and coherence.
    Investigated the correlation between the information within the knowledge graph and related clinical manifestations, providing insights into real-world applications.
  - **Evaluation System Framework for AI Medical Diagnosis & Treatment**:
    Developed a theoretical evaluation system framework for AI-assisted medical diagnosis and treatment, utilizing the Donabedian model, DeLone & McLean model, and the Delphi method.
    Successfully presented the results at the ITQM 2022 conference, showcasing the potential implications of the research.
  - **Knowledge Graph-based Question Answering System**:
    Outlined the structure and functionality of a knowledge graph-based automatic question answering system.
    Provided hands-on demonstrations and explanations of the question answering system, emphasizing its role in enhancing information retrieval and user interaction.
- **Yijiahe Tech. Co.**　　　　　　　　　　　　　　　　　　　　　Nanjing, China
  Software Development Engineer (Full Time)　　　　　　　　　　　　　*Sept 2021 - Jan 2022*
  - **Control System for Movement of Fireman Robot**:
    Added back-end sensor controller functions for signal analysis and reactions, contributing to a more responsive system.
    Migrated movement control system of the fireman robot from Spring to GraalVM, improving application performance by **15%** and facilitating the integration of cross-language tools.
- **Nanjing University of Post and Telecommunication - Big Data Institute**　　Yancheng, China
  Software Development Engineer (Full Time)　　　　　　　　　　　　　*June 2020 - Aug 2020*
  - **Web Application for Daily Campus Notifications**:
    Designed and implemented a web application integrated with WeChat to provide daily campus notifications for approximately **500** students. Enabled real-time alerts and announcements, enhancing communication and engagement within the campus community.

PUBLICATION

- **Evaluation System Framework of Artificial Intelligence Applications in Medical Diagnosis and Treatment**:
  The 9th International Conference on Information Technology and Quantitative Management (ITQM 2022), Dec 2022

PROJECTS

- **Voice Conversion with Sovits-4.0 (Librosa, Spleeter, Sovits)**:
  Developed a voice conversion model using Sovits-4.0 to transform audios into the pitches and intonations of anime characters. Collected and preprocessed datasets with Librosa and Spleeter, and expertly trained the model, achieving a distinctive synthesis that mimics the characters' unique vocal characteristics.
- **Network Analysis (SNAP, NetworkX, Scipy, Matplotlib)**:
  Conducted comprehensive analysis of global properties within real and artificial networks, utilizing SNAP and NetworkX. Visualized the analytical results and distributions, demonstrating patterns that enhanced network behavior understanding.
- **Data Analysis on Modeling and Evaluation (Scikit-learn, Seaborn, Tensorflow, NLTK)**:
  - **Data Analysis and Modeling**: Conducted data preprocessing, including Natural Language Processing (NLP), and variable correlation analysis on a Kaggle dataset. Implemented ensemble modeling to enhance prediction accuracy.
  - **Model Evaluation and Summary Presentation**: Evaluated multiple modeling approaches to assess performance and identify optimal solutions. Delivered a clear summary presentation, conveying key findings to stakeholders.
- **Tower Defense Game Simulator (Unity)**:
  - **Feature & UI Designing, Documenting, and Sprint Scheduling**: Led the design of features and user interfaces for the simulator. Authored comprehensive documentation including vision statements, testing protocols, and release notes. Coordinated and scheduled weekly sprint meetings to ensure alignment and progress.
  - **BackEnd Programming**: Headed the back-end structure design, coding, and testing, ensuring consistency and quality. Monitored coding and commenting styles to maintain adherence to development standards.

SKILLS SUMMARY

- **Languages:**　　Python, Java, C/C++, R, JavaScript, HTML, CSS, SQL, Latex, Golang
- **Frameworks:**　　sklearn, NLTK, TensorFlow, NetworkX, NodeJS, Vue, Spring
- **Tools:**　　Git, PostgreSQL, MySQL, GraalVM, Tableau