

FENG Yunshan

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EDUCATION

Bachelor of Science in Computer Science and Technology 6/2024
Beijing Institute of Technology Beijing, China
Cumulative GPA: 3.6/4.0 (87.7/100)
Awards: 6 times Scholarship granted by the School of Computer Science & Technology

RESEARCH EXPERIENCE

CoInsight: Visual Storytelling for Hierarchical Tables with Connected Insights 7/2023–9/2023

- *Research Assistant / Advisor: Prof. LI Guozheng*

- Integrated Vega-Lite with D3 Force-Directed Graphs to present extracted insights and relationships
- Associated extracted data insights with original table headers and incorporated data insight filtering, providing users with optimal assistance and convenience
- Developed a nested force-directed graph system combined with the edge-bundling algorithm, visualizing transformations between different table headers
- Achieved a high satisfaction rating of 4.58/5 for the interface and 84% approval of the system's effectiveness from the survey

- **Publication:**

Li, G., Li, R., **Feng, Y.**, Zhang, Y., Yuyu, L., & Chi Harold, L. (2024). CoInsight: Visual Storytelling for Hierarchical Tables with Connected Insights. *IEEE Transactions on Visualization and Computer Graphics*. accepted.

Develop Data Analysis Software for Molecular Dynamics 5/2022–Present

- *National University Student Innovation and Entrepreneurship Project / Advisor: GAN Qiang*

- Developed a GUI based on the completed LAMMPS data processing Python script, encapsulated as a visualization application
- Integrated and optimized data analysis scripts for 6 modules, and reduced the runtime on large amounts of data by 75%
- Validated the scripts on large-scale models
- Achieved the initial GUI interactive interface implementation with Python Tkinter

Visualization Analysis of Traffic Data 5/2023–6/2023

- *Leader of a 6-member team / Advisor: Prof. LI Guozheng*

- Independently completed the front-end Vite project, including UI design, routing, and data management
- Employed D3 and ECharts for data visualization rendering and implemented 3 interacting modes to support data-driven decision-making
- Improved the code's modularity and readability significantly by using Vuex for indirect inter-component data communication, streamlining it by 70%
- Achieved smooth transition between switching visual charts by using animation-rendered layout change, received favorable feedback from 100+ users

BITJump Project Management System 4/2023–6/2023

- *Leader of a 4-member team / Advisor: GAO Yujin*

- Addressed parallel development and management requirements of multi-project teams and multi-tasks by developing SPA applications with separated front and back ends
- Completed the UI design and front-end framework construction independently, and implemented 75% functional code
- Boosted overall quality by integrating Vue components, adding routing, and refining CSS format
- Led the team collaboration in integrating the server-side code

CO-CURRICULAR ACTIVITIES

American Collegiate Mathematical Contest in Modeling 2022

- *Leader of a 3-member team | Advisor: WANG Hongzhou*

- Organized group meetings to discuss modeling and designing algorithms
- Undertook all programming tasks, including implementing the optional control model with iterative algorithms written in Python and MATLAB

- Accomplishment: Honorable Mention Award (21%)

Provincial Undergraduate Mathematical Modeling Challenge 2022

- *Programmer of 3-member team | Advisor: Prof. WANG Hongzhou*

- Programmed all modules, including implementing intelligent optimization algorithms to conduct heuristic searches with Python and determining the optimal arrangement strategy
- Obtained an optimal solution in the vast solution space with a 51.6% improvement by integrating greedy strategy with the simulated annealing algorithm
- Improved the algorithm's ability to escape local optima and search for better global optima by 20% by enhancing the annealing algorithm's neighborhood search strategy

- Accomplishment: Second Prize (15%)

COURSE PROJECTS

Compiler implementation based on BITMiniCC framework Spring 2023

Implemented in Java the main functional components of a C compiler, including lexical and syntax analyzer, grammar design, and generations of intermediate and object code

Hadoop distributed cluster construction and computing Fall 2023

Configured on Linux platform, ran Java program written on the Hadoop MapReduce framework, constructed an inverted index of a specified data set, and stored it in HBase

VOLUNTEER ACTIVITY

Contributed to various campus and community volunteer activities, such as recycling to protect environment, working in local libraries, and promoting and organizing a reading club

SKILLS

Programming Languages: C/C++, HTML/CSS, JavaScript, Python, Java, Rust, Bash, Assembly

Frameworks/Libraries: Vue.js, D3.js, Vega-Lite, Qt, PyTorch

Technologies & Tools: Sass, Ajax, RESTful APIs, Docker, Git, Nginx, Hadoop, MATLAB, Verilog, Linux, LaTeX