Yuancheng (Remo) Shen

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Education

- **New York University** — NYC, United States
  Ph.D. - Computer Science and Technology — *Sep. 2024 - Present*
  Advisor: Prof. Robert Krueger
- **Shandong University** — Shandong, China
  Mater of Technology - Computer Science and Technology — *Sep. 2021 - Jun. 2024*
  Advisor: Prof. Yunhai Wang
  Courses: *Human-Computer Interaction, Interactive Data Analysis System, Artificial Intelligence, Machine Learning*
- **Jiangsu University of Science and Technology** — Jiangsu, China
  Bachelor of Technology - Computer Science and Technology — *Sep. 2017 - Jun. 2021*
  GPA: Official: 3.85; Major: 3.95; Ranking: 2/102
  Courses: *Operating Systems, Data Structures, Analysis Of Algorithms, Computer Graphics, Networking, Databases*

Publications

[P1] **Yuancheng Shen**, Yue Zhao, Yunhai Wang, Tong Ge, Haoyan Shi and Bongshin Lee. (2024). Authoring Data-Driven Chart Animations through Direct Manipulation. In *IEEE Transactions on Visualization and Computer Graphics.* (DOI: 10.1109/TVCG.2024.3491504).**[Link]**

[P2] Tao Dai, Qi Wang, **Yuancheng Shen**, Shang Gao. (2025). SwinVision: detecting small objects in low-light environments. In *IEEE Access* (DOI: 10.1109/ACCESS.2025.3548151).

[P3] **Yuancheng Shen**, Rui Ban, Xin Chen, Runduo Hua, Yunhai Wang. (2023). Anomaly Detection Algorithm for Network Device Configuration Based on Configuration Statement Tree. *Computer Science.*, vol. 50, no. 11A, pp. 230200128-10, 2023. **[Link]**

Research Experience

- **Pen-Touch Selector: Selecting Elements in SVG Charts** — Shandong University
  Student Leader |Advisor: Yunhai Wang — *Jan 2024 - July 2024*
  - **Description**: The research concentrates on a touchscreen-based SVG selection system with advanced modeling for accurate element selection and interactive recommendations in complex data charts.
  - **Contribution**: Proposed innovative ideas and models for distinguishing lasso and tracing methods, ensuring precise identification of selected elements for each method; Implemented interactive user feedback to handle uncertain selections, allowing users to make their choices.
- **SwinVision: detecting small objects in low-light environments** — Shandong University
  Collaborator |Advisor: Shang Gao — *Jan 2024 - Sep 2024*
  - **Description**: The research focuses on a Swin Transformer-based framework for small object detection, integrating feature enhancement and specialized modules to improve accuracy and efficiency in low-light environments.
  - **Contribution**: Proposed innovative ideas and models for enhancing small object detection in low-light environments, ensuring a balanced approach between accuracy and efficiency; Contributed extensively to writing and refining the manuscript, with the majority of the content authored by me
- **Authoring Data-Driven Chart Animations through Direct Manipulation [P1][Link]** — Shandong University
  Student Leader |Advisor: Yunhai Wang and Bongshin Lee — *Oct 2023 - Jun 2024*
  - **Description**: The research concentrates on an intuitive tool that empowers users without programming skills to author expressive chart animations through visual language, interactive editing, and smart recommendation strategies.
  - **Contribution**: Researched data animation syntax and tools; Proposed and implemented innovative ideas in consultation with two advisors; Took responsibility for paper writing and illustrations.
  - **Achievement**: Developed an interactive tool based on Canis syntax, enabling users to author data-driven chart animations with ease; Written a research paper.
- **Anomaly Detection for Network Device Configuration [P3][Link]** — Shandong University
  Student Leader |Advisor: Yunhai Wang — *Sep 2021 - May 2022*
  - **Description**: The research concentrates on configuration anomaly detection using over 10,000 configuration files from five manufacturers.
  - **Exploration**: Conducted an in-depth exploration of anomalies in document syntactic structure using big data analysis and statistical methods and offered comprehensive solutions.
  - **Solution**: Pioneered the development of configuration statement trees and applied clustering analysis to detect rare anomaly patterns, enabling automated detection as a substitute for manual inspection.
  - **Achievement**: Achieved exceptional 85%+ accuracy in anomaly detection with the aid of anomaly samples and gave the modifications methods; Written a research paper and applied for a patent.

Selected Honors and Awards

- Outstanding Thesis Award, Shandong University *Jun, 2024*
- Outstanding Graduates Award, Shandong University *Jun, 2024*
- Postgraduate Excellent Student Award Fund, Shandong University *Oct, 2021*
- Outstanding Thesis Award, Jiangsu University of Science and Technology *Jun, 2021*
- Outstanding Graduates Award, Jiangsu University of Science and Technology *Jun, 2021*
- 1st Prize Scholarship, Jiangsu University of Science and Technology *Oct, 2019*
- 1st Prize in Higher Mathematics Competition, Jiangsu *Aug, 2018*

Academic Engagements

- **International Conference on Geometric Modeling and Processing** Qingdao, China
  Participated in the event, received experts and scholars, and volunteered for other conference services *Jun 2024*
- **The Geometric Design and Computing Conference** Qingdao, China
  Participated in the event, received experts and scholars, and volunteered for other conference services *Aug 2022*
- **The China Visualization and Visual Analytics Conference** Xining, China
  Participated in the event *Jul 2022*

Skills

- **Tools**: TypeScript, JavaScript, NodeJs, Python, SQL, C++, R, Latex, Adobe Illustrator, PhotoShop
- **Soft Skills**: Leadership, Event Management, Writing, Public Speaking, Time Management