

# Yuancheng Shen

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## EDUCATION

- **Shandong University** Shandong, China  
*Mater of Technology - Computer Science and Technology* *Sep. 2021 - Jun. 2024 (expected)*  
*Advisor: Prof. Yunhai Wang*  
*GPA: Official: none; Major: 3.8*  
*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 - June 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, Tong Ge, Haoyan Shi, Bongshin Lee, Yunhai Wang. (2023). Authoring Data-Driven Chart Animations. In *IEEE Transactions on Visualization and Computer Graphics*. (In process).[\[Link\]](#)
- [P2] **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

- **Exploring SVG Specification for Data Visualization** Shandong University  
*Student Leader | Advisor: Yunhai Wang* *Aug 2023 - present*
  - **Description:** This research project is dedicated to the exploration of standardized SVG specification with a strong emphasis on enhancing the readability, versatility, and provision of unified standards for visualization charts, all geared towards improving the quality and accessibility of data visualizations.
  - **Contribution:** I contributed by generating innovative ideas, developing a comprehensive design strategy, and conducting thorough literature reviews to inform our work on standardized SVG markup guidelines.
- **Pen-Touch Selector: Selecting Elements in SVG Charts** Shandong University  
*Student Leader | Advisor: Yunhai Wang* *Jan 2023 - present*
  - **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.
- **A Visual Grammar for Charting and Reverse Generation** Shandong University  
*Participant | Advisor: Yunhai Wang* *Dec 2022 - present*
  - **Description:** The research concentrates on a static data visualization grammar for generating SVG charts and a reverse-engineering algorithm to automatically infer syntax expressions and data from existing SVG charts, streamlining the process of chart customization for easy and seamless modifications.
  - **Contribution:** Participated in discussions regarding the design of the visualization grammar and also did part of the coding work; Contributed valuable insights to the idea of reverse-engineering during collaborative discussions.
- **Authoring Data-Driven Chart Animations [P1][\[Link\]](#)** Shandong University  
*Student Leader | Advisor: Yunhai Wang and Bongshin Lee* *Jun 2022 - Jun 2023*
  - **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 [P2][\[Link\]](#)** 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

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- Postgraduate Excellent Student Award Fund (Top 3%), Shandong University *Oct, 2021*
- Outstanding Thesis Award (Top 0.5%), Jiangsu University of Science and Technology *Jun, 2021*
- Outstanding Graduates Award (Top 1%), Jiangsu University of Science and Technology *Jun, 2021*
- 1st Prize Scholarship (Top 1%), Jiangsu University of Science and Technology *Oct, 2019*
- 1st Prize in Higher Mathematics Competition(Top 0.05%), Jiangsu *Aug, 2018*

## ACADEMIC ENGAGEMENTS

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- **Review for an academic paper** Qingdao, China  
*Participated in reviewing an academic paper on interactive time-series data visualization* *May 2023*
- **Participated in *the Geometric Design and Computing Conference*** Qingdao, China  
*Participated in the event, received experts and scholars, and volunteered for other conference services* *Aug 2022*
- **Participated in *the China Visualization and Visual Analytics Conference*** Xining, China  
*Participated in the event* *Jul 2022*

## SKILLS

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- **Languages:** GRE 329(Verbal 159, Quantitative 170, Writing 4.5), TOEFL 107
- **Tools:** TypeScript, JavaScript, NodeJs, Python, SQL, C++, R, Latex, Adobe Illustrator, PhotoShop
- **Soft Skills:** Leadership, Event Management, Writing, Public Speaking, Time Management