

# 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 Overall/ Major: 3.5/3.7*  
*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 Overall/ Major/ Ranking: 3.8/ 3.9/ Top 2%*  
*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. In *Computer Science*.(To appear in Nov. 2023).[Link]

## RESEARCH EXPERIENCE

- **Exploring SVG Markup Standards for Enhanced Data Visualization** Shandong University  
*Student Leader | Advisor: Yunhai Wang and Bongshin Lee* Aug 2023 - present
  - **Description:** This research project is dedicated to the exploration of standardized SVG markup guidelines with a strong emphasis on enhancing the readability, versatility, and provision of unified standards for grammar designers, 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.
- **PenTouchSelector: Selecting Elements in SVG Charts** Shandong University  
*Student Leader | Advisor: Yunhai Wang and Bongshin Lee* 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 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 a 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, 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(Top 0.05%), Jiangsu *Aug, 2018*

## ACADEMIC ENGAGEMENTS

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- **Review for an academic paper** Qingdao, China  
*Participated in reviewing a 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 & volunteered 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