CHEN CHEN

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RESEARCH INTERESTS

AI-empowered Semi-automatic Graphics Semantics Understanding / Decomposition, Low-Code Approaches for Visualization and Exploratory Data Analysis, Human-Computer Interaction, Human-AI Collaboration.

EDUCATION

University of Maryland, MD, USA   *09/2019 - present*
PhD student in Computer Science   Advisor: Zhicheng Liu

University of Chinese Academy of Sciences & ShanghaiTech University, Shanghai, China *09/2016 - 06/2019*
Master of Science in Engineering, Communication and Information Systems   Advisor: Qifeng Liao

HeFei University of Technology, HeFei, China   *09/2012 - 06/2016*
Bachelor of Science, Mathematics and Applied Mathematics

PUBLICATIONS

Jinbin Huang, **Chen Chen**, Aditi Mishra, Bum Chul Kwon, Zhicheng Liu, and Chris Bryan.
On CILP's Capability of Recognizing Fake Images: What is CLIP looking at? To appear at GenAICHI 2024.

Chen Chen, Bongshin Lee, Yunhai Wang, Yunjeong Chang, and ZhichengLiu.
Mystique: Deconstructing SVG Charts for Layout Reuse. IEEE Transactions on Visualization and Computer Graphics (Proceedings of IEEE VIS 2023), 2024.

Chen Chen, Jane Hoffswell, Shunan Guo, Ryan Rossi, Yeuk-Yin Chan, Fan Du, Eunyee Koh, and Zhicheng Liu.
WHATSNEXT: Guidance-enriched Exploratory Data Analysis with Interactive, Low-Code Notebooks. IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC), 2023.

Chen Chen, Zhicheng Liu.
The State of the Art in Creating Visualization Corpora for Automated Chart Analysis. Computer Graphics Forum (Proceedings of EuroVis 2023), 2023

Zhicheng Liu, **Chen Chen**, Francisco Morales, and Yishan Zhao.
Atlas: Grammar-based Procedural Generation of Data Visualizations. IEEE VIS Short Papers 2021.

Chen Chen, Qifeng Liao.
ANOVA Gaussian process modeling for high-dimensional stochastic computational models. Journal of Computational Physics, 2020.

RESEARCH EXPERIENCE

Research Assistant, University of Maryland   *02/2021 - present*
Advisor: Zhicheng Liu
We study scalable visualization tools and systems for broader audiences. Selected projects include:

1. *Mascot.js*, a visualization grammar for procedural data-driven chart creation (paper, website);

2. *Mystique*, an authoring tool for reusing SVG data visualizations (paper, website);

3. A state-of-the-art survey on chart corpora in automated chart analysis research (paper).

PhD Data Visualization Intern, Epsilon Data Management, LLC. *05/2023 - 08/2023*

Advisor: Andrew Burks

We established a new notebook-format data analysis workflow within the company's Visual Analytics system.

Research Scientist Intern, Adobe Inc. *05/2022 - 08/2022*

Advisor: Jane Hoffswell, Shunan Guo, Fan Du, Ryan A. Rossi, Gromit Yeuk-Yin Chan

We studied improving the user experience of notebook-based exploratory data analysis (paper).

Research Assistant, University of Maryland *06/2020 - 01/2021*

Advisor: Furong Huang

We studied example-wise randomized smoothing to boost accuracy&robustness for neural networks (arXiv).

Research Assistant, ShanghaiTech University *09/2016 - 06/2019*

Advisor: Qifeng Liao

We proposed a learning-based method for solving PDEs with Gaussian Process (paper).

PROFESSIONAL SERVICES

Conference Reviewer: IEEE VIS 2023, CHI 2024, PacificVis 2024

Journal Reviewer: IEEE Transactions on Visualization and Computer Graphics

SELECTED PROJECTS

A Visual Tour to Empirical Neural Network Robustness 09/2021 - 12/2021

We developed a narrative visualization article to convey several key concepts regarding neural network robustness (demo). I led regular meetings discussing overall visualization designs, prepared needed dataset (including training models and recording statistics using PyTorch), and implemented the front-end website.

AWARDS

- **Merit Student Award**, University of Chinese Academy of Sciences (2018)
- **Outstanding Graduate of Anhui Province** (Top 3%, 2016)
- **Outstanding Graduate of Hefei University of Technology** (Top 10%, 2016)
- **Undergraduate National Scholarship**, HeFei University of Technology (Top 1%, 2012-2014)
- **Merit Student Award**, HeFei University of Technology (2012-2014)

SKILLS

JavaScript, TypeScript, Python, HTML, CSS, PyTorch, React, LaTeX.