

# Grace Guo

gguo31@gatech.edu | gracegsy.github.io

I am interested in research at the intersection of AI, learning sciences and human-computer interaction. My current projects focus on AI for online education, causal inference, and visual analytics.

## Education

### Georgia Institute of Technology

PHD IN HUMAN-CENTERED COMPUTING

- Advised by Dr. Alex Endert

Atlanta, GA

Current

### Carnegie Mellon University

BS IN COGNITIVE SCIENCE AND HUMAN-COMPUTER INTERACTION

- QPA: 3.91, Dean's List High Honors

Pittsburgh, PA

2018

## Awards

### IBM PhD Fellowship

IBM RESEARCH

2023-2024

## Work Experience

### Georgia Institute of Technology, School of Interactive Computing

GRADUATE RESEARCH ASSISTANT

- Advised by Dr. Alex Endert

Atlanta, GA

Aug 2019 - 2024 (projected)

### International Business Machines Corporation (IBM)

RESEARCH INTERN, COMPUTATIONAL HEALTHCARE

- Developed visual analytics tools for domain-driven counterfactual explanations of AI model predictions of disease phenotypes from cardiac imaging and videos
- Manuscript under review at ACM CHI 2024

Cambridge, MA

May 2023 - Aug 2023

### International Business Machines Corporation (IBM)

RESEARCH INTERN, COMPUTATIONAL HEALTHCARE

- Worked with the IBM Healthcare Analytics team on causal inference problems
- Developed Causalvis, an open source Python visualization package to support causal inference analysis
- Manuscript published and presented at ACM CHI 2023

Cambridge, MA

May 2022 - Aug 2022

### Pacific Northwest National Laboratory

RESEARCH INTERN, NATIONAL SECURITY INTERNSHIP PROGRAM

- Designed and implemented DietParselantro, a Jupyter widget for textual data classification
- Implemented VAINÉ, a system for interactively estimating causal effects in natural experiments

Richland, WA

May. 2020 - Aug 2020

### Singapore University of Technology and Design

RESEARCHER, META-DESIGN LAB

- Studied the role of data visualizations in industry decision making
- Created an open source svelte visualization toolkit for flexible, componentized data visualization

Singapore

Aug. 2018 - Aug. 2019

## Publications

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### **Causalvis: Visualizations for Causal Inference**

GRACE GUO, EHUD KARAVANI, ALEX ENDERT, BUM CHUL KWON

ACM Conference on Human Factors in Computing Systems (CHI). 2023.

### **VAINE: Visualization and AI for Natural Experiments**

GRACE GUO, MARIA GLENSKI, ZHUANYI SHAW, EMILY SALDANHA, ALEX ENDERT, SVITLANA VOLKOVA, DUSTIN ARENDT

IEEE Visualization Conference (VIS). 2021.

### **A Survey of Human-Centered Evaluations in Human-Centered Machine Learning**

FABIAN SPERRLE, MENNATALLAH EL-ASSADY, GRACE GUO, RITA BORGIO, DUEN HORNG CHAU, ALEX ENDERT, DANIEL KEIM

Computer Graphics Forum (EuroVis). 2021.

### **Florence: a Web-based Grammar of Graphics for Making Maps and Learning Cartography**

ATE POORTHUIS, LUCAS VAN DER ZEE, GRACE GUO, JO HSI KEONG, BIANCHI DY

Cartographic Perspectives. December 2020.

## Talks

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### **Causalvis: Visualizations for Causal Inference**

MAKING SENSE & DECISIONS WITH VISUALIZATION

ACM Conference on Human Factors in Computing Systems (CHI). 2023.

### **Flexible and Expressive Augmentation of Domain Specific Visualizations**

DOCTORAL COLLOQUIUM

IEEE Visualization Conference (VIS). 2022.

### **VAINE: Visualization and AI for Natural Experiments**

AI+VIS

IEEE Visualization Conference (VIS). 2021.

### **Survey of Evaluations in Human-Centered Machine Learning: Dimensions for Measuring Trust, Interpretability and Explainability**

STARS

EuroVis. 2021.

## Teaching

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### **CS4460: Introduction to Information Visualization**

GEORGIA INSTITUTE OF TECHNOLOGY

*Atlanta, GA*

*Spring 2023*

### **CS7455: Issues in Human-Centered Computing**

GEORGIA INSTITUTE OF TECHNOLOGY

*Atlanta, GA*

*Spring 2022*

### **CS7450: Information Visualization**

GEORGIA INSTITUTE OF TECHNOLOGY

*Atlanta, GA*

*Fall 2020*

### **15-112: Fundamentals of Programming and CS**

CARNEGIE MELLON UNIVERSITY

*Pittsburgh, PA*

*Fall 2015, Spring 2016*