








Omar Shaikh

My interests lie at the intersection of human-computer interaction and machine learning. I'm interested in understanding how automated algorithms can affect and support interpersonal interactions online.

 oshaikh.com
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 Google Scholar
 CV PDF

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 My blog!

Education

Present — Sep. 2022 **Ph.D. in Computer Science**
Stanford University, Palo Alto, CA

May 2022 — Aug. 2018 **B.S. in Computer Science, Minor in Linguistics**
Georgia Institute of Technology, Atlanta, GA
Concentrations in Intelligence and Theory

Academic Research Experience

May 2022 — Aug. 2018 **Georgia Institute of Technology**, Atlanta, GA
Undergraduate Research Assistant, Polo Club of Data Science
Advisor: Duen Horng (Polo) Chau, Diyi Yang
Working at the intersection of HCI and Machine Learning; building interactive interfaces that help explain models.

Summer 2020 **University of Southern California**, Marina del Rey, CA (remote)
Research Intern, Natural Language Group
Mentor: Jonathan May
Work on understanding and using monolingual embeddings to improve transfer learning in neural machine translation tasks. Analyzed internal representations for Translation and Language models. Researched why these internal representations forget things, along with methods to mitigate forgetting.

May 2018 — Aug. 2016 **Cornell University**, Ithaca, NY (remote)
Visiting Research Assistant, Virtual Embodiment Lab
Advisor: Andrea Won
Understanding synchrony in virtual environments; built movement trackers for networked VR environments, visualized interpersonal synchrony.

Industry Research Experience

Aug. 2021 — Jan. 2021 **Square**, Atlanta, GA
Research Intern, Corporate Purpose
Mentor: Felipe Chacon
Modeled seller digitization during the COVID-19 pandemic for millions of transactions over hundreds of thousands of sellers. Work accepted to CSCW 2022.

Summer 2019 **Square**, Atlanta, GA
Applied Research Intern, Commerce Machine Learning
Mentor: Marsal Gavaldà
Built a trending item identification platform (Square Trends), classified items into tax categories. Presented to CEO (Jack Dorsey) + Core after garnering attention on Trends.

Honors and Awards

- 2022 Outstanding Senior in Linguistics, Georgia Tech
Awarded to one senior from each language group for their excellence
- 2021 Sigma Xi Best Undergraduate Research Award
Awarded to two undergraduate students for outstanding research
- 2020 Best Poster, Honorable Mention at IEEE VIS
For "Mapping Researchers with PeopleMap"
- 2021 – 2020 President's Undergraduate Research Award (PURA)
Funding (\$1500) for both the Spring 2020 and Fall 2021 semesters
- 2021 – 2018 Faculty Honors
GPA of 4.00, with a schedule of at least 12 hours of coursework with no W grades
- Summer 2019 Square Intern Hackathon
1st place at Square's intern hackathon for work on identifying trending items
- For 2018 AY Outstanding Freshman, Georgia Tech, College of Computing
Awarded to a single freshman student for outstanding academic and extracurricular performance
- 2017 Middle East and Africa Finalist, Microsoft Imagine Cup
For work on Insight, a Virtual Reality tutoring platform; represented Saudi Arabia

Publications

Conferences & Journals

NeuroCartography: Scalable Automatic Visual Summarization of Concepts in Deep Neural Networks

Haekyu Park, Nilaksh Das, Rahul Duggal, Austin P. Wright, Omar Shaikh, Fred Hohman, Duen Horng (Polo) Chau

IEEE Transactions on Visualization and Computer Graphics (TVCG). 2022.

[Project](#) [Demo](#) [PDF](#) [Code](#) [BibTeX](#) ★ Top 4 TVCG Papers invited to SIGGRAPH

Six Feet Apart: Online Payments During the COVID-19 Pandemic

Omar Shaikh, Cassandra Ung, Diyi Yang, Felipe Chacon

The 25th ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW). 2022.

[Project](#) [PDF](#) [BibTeX](#)

RECAST: Enabling User Recourse and Interpretability of Toxicity Detection Models with Interactive Visualization

Austin P. Wright, Omar Shaikh, Haekyu Park, Will Epperson, Muhammed Ahmed, Stephane Pinel, Diyi Yang, Duen Horng (Polo) Chau

The 24th ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW). 2021.

[Project](#) [PDF](#) [Code](#) [BibTeX](#)

Examining the Ordering of Rhetorical Strategies in Persuasive Requests

Omar Shaikh, Jiaao Chen, Jon Saad-Falcon, Duen Horng (Polo) Chau, Diyi Yang

Findings of the Association for Computational Linguistics: Empirical Methods in Natural Language Processing (EMNLP Findings). 2020.

[Project](#) [PDF](#) [Video](#) [Code](#) [BibTeX](#)

Argo Lite: Open-Source Interactive Graph Exploration and Visualization in Browsers

Siwei Li, Zhiyan Zhou, Anish Upadhayay, Omar Shaikh, Scott Freitas, Haekyu Park, Zijie J. Wang, Susanta Routray, Matthew Hull, Duen Horng (Polo) Chau

ACM International Conference on Information & Knowledge Management (CIKM). 2020.

[Project](#) [▶ Demo](#) [PDF](#) [Code](#) [BibTeX](#)

CNN Explainer: Learning Convolutional Neural Networks with Interactive Visualization

Zijie J. Wang, Robert Turko, Omar Shaikh, Haekyu Park, Nilaksh Das, Fred Hohman, Minsuk Kahng, Duen Horng (Polo) Chau

IEEE Transactions on Visualization and Computer Graphics (TVCG). Salt Lake City, UT, USA, 2021.

[Project](#) [▶ Demo](#) [PDF](#) [Video](#) [Recording](#) [Code](#) [BibTeX](#) ★ **Top of Github Trending, Top 4 TVCG Papers invited to SIGGRAPH**

Nonverbal Synchrony in Virtual Reality

Yilu Sun, Omar Shaikh, Andrea Won

Public Library of Science (PLOS One). 2019.

[Project](#) [PDF](#) [Code](#) [BibTeX](#)

Personalized Avatars and Self-Presence

Yilu Sun, Swati Pandita, Omar Shaikh, Byungdoo Kim, Andrea Won

International Society for Presence Research Annual Conference (PRESENCE). 2018.

[Project](#) [PDF](#) [BibTeX](#)

Posters & Extended Abstracts

MisVis: Explaining Web Misinformation Connections via Visual Summary

Seongmin Lee, Sadia Afroz, Haekyu Park, Zijie J. Wang, Omar Shaikh, Vibhor Sehgal, Ankit Peshin, Duen Horng (Polo) Chau

CHI '22 Extended Abstracts (CHI LBW). 2022.

[Project](#) [▶ Demo](#) [PDF](#) [BibTeX](#)

EnergyVis: Interactively Tracking and Exploring Energy Consumption for ML Models

Omar Shaikh, Jon Saad-Falcon, Austin P. Wright, Nilaksh Das, Scott Freitas, Omar Isaac Asensio, Duen Horng (Polo) Chau

CHI '21 Extended Abstracts (CHI LBW). 2021.

[Project](#) [PDF](#) [Video](#) [Recording](#) [Code](#) [BibTeX](#)

Mapping Researchers with PeopleMap

Jon Saad-Falcon, Omar Shaikh, Zijie J. Wang, Austin P. Wright, Sasha Richardson, Duen Horng (Polo) Chau

IEEE Visualization Conference (VIS). Salt Lake City, UT, USA, 2020.

[Project](#) [▶ Demo](#) [PDF](#) [Code](#) [BibTeX](#) ★ **Best Poster, Honorable Mention**

RECAST: Interactive Auditing of Automatic Toxicity Detection Models

Austin P. Wright, Omar Shaikh, Haekyu Park, Will Epperson, Muhammed Ahmed, Stephane Pinel, Diyi Yang, Duen Horng (Polo) Chau

The Eighth International Workshop of Chinese CHI (ChiCHI). 2020.

[Project](#) [PDF](#) [BibTeX](#)

CNN 101: Interactive Visual Learning for Convolutional Neural Networks

Zijie J. Wang, Robert Turko, Omar Shaikh, Haekyu Park, Nilaksh Das, Fred Hohman, Minsuk Kahng, Duen Horng (Polo) Chau

Extended Abstracts on ACM Human Factors in Computing Systems (CHI). Honolulu, HI, USA, 2020.

[Project](#) [PDF](#) [Video](#) [Code](#) [BibTeX](#)

Movement Visualizer for Networked Virtual Reality Platforms

Omar Shaikh, Yilu Sun, Andrea Won

IEEE Conference on Virtual Reality and 3D User Interfaces (IEEE VR). 2018.

[Project](#) [PDF](#) [Code](#) [BibTeX](#)

Press

"This New Tool Can Track the Environmental Cost of Your Machine Learning Model." Georgia Tech.

- Apr. 2021 "The New Year Can Track the Environmental Cost of Your Machine Learning Model," Georgia Tech, College of Computing
- Mar. 2021 "Making Change, Chapter 4: One Year of Payments and the Pandemic," Square, Inc.
- Oct. 2020 "Georgia Tech Researchers Contribute 13 Papers to Premier Visualization Conference," Georgia Tech, College of Computing
- Nov. 2020 "Being Polite Can Be Essential to Getting a Loan," Georgia Tech, College of Computing
- Sep. 2019 "Axe throwing and hard seltzer: Here are 2020's hottest spending trends," CBS News. *probably not very accurate now thanks to COVID :(
- Sep. 2019 "20 Predictions for 2020," Square, Inc.

Misc

Institutional

Georgia Tech Threads Mardi Gras, 2019

Member

- 2021 Intramural Frisbee Champions @ GT :)
- Present — 2018 Serve Learn Sustain Student Ambassador
- Present — 2018 Ramblin' Tennis @ Georgia Tech

Skills

Languages: Python, JavaScript, C, Java, C#, Some Arabic and Hindi

Technologies: PyTorch, Node.js, React (Native), Redux, Unity

References

Dr. Polo Chau, Associate Professor
School of Computational Science and Engineering
Georgia Institute of Technology
cc.gatech.edu/~dchau/

Dr. Diyi Yang, Assistant Professor
School of Interactive Computing
Georgia Institute of Technology
cc.gatech.edu/~dyang888/

Dr. Andrea Won, Assistant Professor
Department of Communication
Cornell University
communication.cals.cornell.edu/people/andrea-won/