Omar S. Shaikh

CONTACT INFORMATION

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RESEARCH INTERESTS

Human Computer Interaction, Computational Social Science, Visualization, Natural Language Processing

EDUCATION

Georgia Institute of Technology, Atlanta, GA USA

B.S. in Computer Science. Minor in Linguistics (expected graduation date: May 2022)

- GPA: 4.0/4.0
- Advisors: Polo Chau and Diyi Yang

ACADEMIC EXPERIENCE

Georgia Institute of Technology, Atlanta, GA USA

PoloClub + SALT Lab - Undergraduate Researcher **December 2018 - Present**
Advisors: Dr. Polo Chau, Dr. Diyi Yang
Research in VISxAI + Social Science. Currently working on the following projects:

- **EnergyVis:** Visualizing energy usage for deep learning models; recording carbon output + FLOPs, while interactively highlighting alternatives for reducing footprints!
- **Recast:** A tool for suggesting alternate wordings for potentially toxic sentences by analyzing attention in Transformer models and editing sentences to optimize for a less toxic output. Highlights potential shortcomings in SOTA models from an HCI perspective as a side effect.

USC Information Sciences Institute, Marina del Rey (remote), CA USA

Natural Language Group - Research Intern **May 2020 - August 2020**
Advisor: Dr. Jonathan May
Research on understanding and using monolingual embeddings for transfer learning in neural machine translation.

Cornell University, Ithaca, NY USA

Virtual Embodiment Lab - Visiting Researcher **August 2016 - May 2018**
Advisor: Dr. Andrea Won
Research on computational social science and VR. Worked on measuring + identifying pro-social cues from movement behaviour.

REFEREED PUBLICATIONS

Omar Shaikh, Jiaao Chen, Jon Saad-Falcon, Duen Horng Chau, Diyi Yang (2020). Examining the Ordering of Rhetorical Strategies in Persuasive Requests. Findings of EMNLP 2020.
https://arxiv.org/abs/2010.04625

Jon Saad-Falcon, **Omar Shaikh**, Zijie J. Wang, Austin P. Wright, Sasha Richardson, Duen Horng Chau (2020). Mapping Researchers with PeopleMap (Poster). IEEE VIS 2020.
https://arxiv.org/abs/2006.06105
Honorable Mention, Best Poster Award.

Wang, Zijie J., Robert Turko, **Omar Shaikh**, Haekyu Park, Nilaksh Das, Fred Hohman, Minsuk Kahng, Duen Horng Chau (2020). CNN Explainer: Learning Convolutional Neural Networks with Interactive Visualization. IEEE VIS 2020.

https://arxiv.org/abs/2004.15004
Went viral! Front page on Hacker News, 5K stars on Github.

Siwei Li, Zhiyan Zhou, Anish Upadhayay, **Omar Shaikh**, Scott Freitas, Haekyu Park, Zijie J. Wang, Susanta Routray, Matthew Hull, Duen Horng Chau (2020). Argo Lite: Open-Source Interactive Graph Exploration and Visualization in Browsers (Resource Paper). CIKM 2020.
https://arxiv.org/abs/2008.11844

Austin P Wright, **Omar Shaikh**, Haekyu Park, Will Epperson, Muhammed Ahmed, Stephane Pinel, Diyi Yang, Duen Horng Chau (2020). RECAST: Interactive Auditing of Automatic Toxicity Detection Models. Chinese CHI 2020 Workshop, Honolulu, Hawaii.
https://arxiv.org/abs/2001.01819

Zijie J Wang, Robert Turko, **Omar Shaikh**, Haekyu Park, Nilaksh Das, Fred Hohman, Minsuk Kahng, Duen Horng Chau (2020). CNN 101: Interactive Visual Learning for Convolutional Neural Networks (Extended Abstract). CHI 2020, Honolulu, Hawaii.
https://arxiv.org/abs/2001.02004

Yilu Sun, **Omar Shaikh**, Andrea Stevenson Won (2019). Nonverbal Synchrony in Virtual Reality. PLoS ONE.
https://doi.org/10.1371/journal.pone.0221803

Yilu Sun, Swati Pandita, **Omar Shaikh**, Byungdoo Kim, Andrea Stevenson Won (2018). Personalized Avatars and Self-Presence. PRESENCE 2018; International Society for Presence Research (ISPR), May 2018, Prague, Czech Republic.

Omar Shaikh, Yilu Sun, Andrea Stevenson Won (2018). Movement Tracker for Networked Virtual Reality Platforms (Poster). IEEE Virtual Reality, March 2018, Reutlingen, Germany.
https://ieeexplore.ieee.org/abstract/document/8446398

Submissions and Preprints

Austin P Wright, **Omar Shaikh**, Haekyu Park, Will Epperson, Muhammed Ahmed, Stephane Pinel, Diyi Yang, Duen Horng Chau (2020). Who Watches the Watchmen? Understanding Automatic Toxicity Detection Models with RECAST. Under Review.

Honors and Awards

President's Undergraduate Research Award, Spring 2020, Spring 2021

Outstanding Freshman, College of Computing, for work during 2018-2019

Microsoft Imagine Cup National Winner (Saudi Arabia), Middle East and Africa Finalist, 2017

Square Intern Hackathon, 1st place, 2019

Faculty Honors, all semesters

Selected Projects

Sourcery
Recruiting is hard. Sourcery is a platform that aims to fix some aspects of recruiting across fields other than Computer Science. Coming soon!

Insight
Connected students with tutor of their choice and transport them into a personalized VR classroom. Developed and designed interface to pair students with tutors, and designed VR classrooms and labs. Competed in Microsoft Imagine Cup, and represented country as semi-finalist. Talked with education technology companies interested in licensing Insight.

HDF5.js

Ported read API from h5py using JavaScript's FileReader API. Rewrote synchronous Python code to async JavaScript code to maintain read speeds. Currently under development! (check out the GitHub repo).
https://github.com/oshaikh13/hdf5.js.git

Professional Experience

Square, Atlanta, GA USA

Applied ML Research Intern **May 2019 - August 2019**
Advisor: Dr. Marsal Gavalda
Generated tax code + item dependency graphs from unstructured text data. Modified prior classifiers to use generated graphs. Analyzed n-gram frequencies using Spacy and NLTK for millions of transactions per day. Classified trends based on characteristics from a log-linear regression. Team presented to CEO (Jack Dorsey) + Core after garnering attention.

Skills

Languages: Python, Java, C, JavaScript, C#
Frameworks: PyTorch, Node.js, React, React Native, Redux, Unity

Personal

I once had to sail a sunfish without my glasses. I can't see (much less do) anything without my glasses. Also: ask me where I'm from!