

EDUCATION

Tufts University

Medford, MA

Ph.D. in Computer Science, Advisor: Remco Chang

August 2021

Dissertation: Communicating with Visualization: The Importance of Simplicity

Honors:

2021 School of Engineering Outstanding Graduate Contributor to Engineering Education Award

Tufts University

Medford, MA

M.S. in Computer Science, Advisor: Remco Chang

May 2019

Smith College

Northampton, MA

B.A. in Mathematics, *magna cum laude*

May 2014

Honors:

Phi Beta Kappa, 2013

Pokora Senior Scholar Athlete, 2014 (recognizes senior scholar athlete with the highest GPA)

PROFESSIONAL EXPERIENCE

Westfield State University

Westfield, MA

Assistant Professor

September 2023 -

Northeastern University

Boston, MA

Assistant Teaching Professor

September 2021 - August 2023

IQT Labs

Waltham, MA

Visualization Group Intern

June 2020 - August 2020

National Renewable Energy Lab

Golden, CO

Insight Center Intern

June 2018 - August 2018

Mathematica Policy Research

Cambridge, MA

Data Associate

June 2014 - July 2016

PUBLICATIONS

- [1] B.C. Braga, S.B. Cash, K. Sarson, R. Chang, **A. Mosca**, N.L.W. Wilson. The gamification of nutrition labels to encourage healthier food selection in online grocery shopping: A randomized controlled trial. *Appetite* 2023.
- [2] B.C. Braga, S.B. Cash, K. Sarson, R. Chang, **A. Mosca**, N.L.W. Wilson. The creation of an online grocery store for experimental purposes: A pilot study. *Food Quality and Preference* Volume 109, 2023.
- [3] A. Suh, **A. Mosca**, S. Robinson, Q. Pham, D. Cashman, A. Ottley, and R. Chang. Inferential Tasks as an Evaluation Technique for Visualization. *EuroVis 2022 - Short Papers*. **Best Short Paper Award**
- [4] **A. Mosca**, A. Ottley and R. Chang. Does Interaction Improve Bayesian Reasoning with Visualization?. *ACM CHI Conference on Human Factors in Computing Systems*, Yokohama, Japan, 2021.

- [5] M. Procopio, **A. Mosca**, C. Scheidegger, E. Wu and R. Chang. Impact of Cognitive Biases on Progressive Visualization. *IEEE Transactions on Visualization and Computer Graphics*, 2021.
- [6] **A. Mosca**, S. Robinson, M. Clarke, R. Redelmeier, S. Coates, D. Cashman, and R. Chang. Defining an Analysis: A Study of Client-Facing Data Scientists. *EuroVis 2019 - Short Papers*, 2019.
- [7] D. Cashman, S. Rukh Humayoun, F. Heimerl, K. Park, S. Das, J.R. Thompson, B. Saket, **A. Mosca**, J. Stasko, A. Endert, M. Gleicher, and R. Chang. A User-based Visual Analytics Workflow for Exploratory Model Analysis. *Computer Graphics Forum*, 2019.
- [8] G. Ryan, **A. Mosca**, R. Chang, and E. Wu. At a Glance: Pixel Approximate Entropy as a Measure of Line Chart Complexity. *IEEE Transactions on Visualization and Computer Graphics*, 2018.
- [9] D. Cashman, G. Patterson, **A. Mosca**, N. Watts, S. Robinson, R. Chang. RNNbow: Visualizing Learning via Backpropagation Gradients in RNNs. *IEEE Computer Graphics and Applications*, 2018.
- [10] Lester, R.S., Irvin, C.V., **Mosca, A.** & Bradnan, C. (2015). *Tipping the Balance: The Balancing Incentive Program and State Progress on Rebalancing Their Long-Term Services and Supports*. Medicaid.gov.
- [11] **Mosca, A.** & Teitelbaum, N.D. (2015). Pancreas. In Brehm, B.A. (ed.), *Nutrition: Science, Issues, and Applications*. Santa Barbara, CA: Greenwood Press.
- [12] **Mosca, A.** (2015). Microbiota and Microbiome. In Brehm, B.A. (ed.), *Nutrition: Science, Issues, and Applications*. Santa Barbara, CA: Greenwood Press.
- [13] **Mosca, A.** (2015). Polyphenols. In Brehm, B.A. (ed.), *Nutrition: Science, Issues, and Applications*. Santa Barbara, CA: Greenwood Press.

PAPERS IN SUBMISSION \ PREPARATION

- [14] A. Suh, Y. Jiang, **A. Mosca**, E. Wu, and R. Chang. A Grammar for Hypothesis-Driven Visual Analytics. (In preparation)
- [15] A. Suh, **A. Mosca**, D. Cashman, E. Wu, and R. Chang. A Hypothesis-Based Framework for Evaluating Visualization and Visual Analytics Systems. (In preparation)
- [16] V. Shah, and **A. Mosca**. What is Visualization for Communication? Design Guidelines and a Definition for this Subspace of Visualization. (In preparation)

WORKSHOPS AND POSTERS

- V. Shah, and **A. Mosca**. What is Visualization for Communication? Analyzing Four Years of VisComm Papers. Poster, *IEEE Conference on Information Visualization (InfoVis)*, 2023.
- A. Mosca**, A. Ottley, and R. Chang. Does Interaction Improve Bayesian Reasoning with Visualization? In *IEEE Visualization Workshop on Visualization for Communication (VisComm)*, 2020.
- A. Mosca**, Shannon Robinson, Meredith Clarke, Rebecca Redelmeier, Sebastian Coates, Dylan Cashman, and Remco Chang. Towards Data Science for the Masses: A Study of Data Scientists and Their Interactions with Clients. Poster, *IEEE Conference on Information Visualization (InfoVis)*, 2018.
- D. Cashman, G. Patterson, **A. Mosca**, and R. Chang. RNNbow: Visualizing the Learning Process in Recurrent Neural Networks. In *IEEE Visualization Workshop on Visual Analytics for Deep Learning (VADL)*, 2017.
Best Paper Award.
- Gabriel Ryan, **A. Mosca**, Remco Chang, and Eugene Wu. Approximate Entropy as a Measure of Line Chart Complexity. Poster, *IEEE Conference on Information Visualization (InfoVis)*, 2017.

UNDERGRADUATE AND MASTERS RESEARCH MENTORING

Vedanshi Shah Northeastern 2023 Undergraduate Researcher, Cooperative Education in Visualization Research	Spring 2023, Fall 2022
Evan Suslovich Northeastern 2025 Undergraduate Researcher	Spring 2023
Jake Phelan Northeastern 2025 Undergraduate Researcher	Spring 2023
Simone Ritcheson Northeastern 2025 Undergraduate Researcher	Fall 2022
Alison Picerno Northeastern 2025 Undergraduate Researcher	Fall 2022
Smith SURF Smith Human Computation & Visualization Lab	Summer 2021
Alice Dempsey Tufts 2021 VALT Undergraduate Researcher <i>Currently:</i> Junior Associate Software Development Engineer at Publicis Sapient	Fall 2020 –Summer 2021
Andrew Wang Tufts 2021 VALT Undergraduate Researcher <i>Currently:</i> Data Science Intern at CyGlass	Fall 2020 –Spring 2021
Helen Li Tufts 2023 VALT Undergraduate Researcher	Fall 2020 –Spring 2021
Kate Hanson Tufts 2021 VALT Undergraduate Researcher <i>Currently:</i> MS Student at Tufts University	Fall 2019 –Spring 2021
Tania Valrani Tufts 2021 Master's Student Directed Study	Spring 2020
Sammy Stolzenbach Tufts 2020 VALT Undergraduate Researcher <i>Currently:</i> Data Analyst at New York Times	Summer 2019 –Spring 2020
Sebastian Coates Tufts 2020 VALT Undergraduate Researcher <i>Currently:</i> Co-founder at Immuto	Fall 2017 –Spring 2018
Meredith Clarke Tufts 2019 VALT Undergraduate Researcher <i>Currently:</i> Analyst at Education Resource Strategies	Summer 2017 –Spring 2018
Rebecca Redelmeier Tufts 2019 VALT Undergraduate Researcher <i>Currently:</i> Audience Engagement Associate at Committee to Protect Journalists	Summer 2017 –Spring 2018
Julia Romero University of Texas at Austin 2020 REU Student <i>Currently:</i> PhD Student in Computer Science at University of Colorado at Boulder	Summer 2017

TEACHING EXPERIENCE

Westfield State University Assistant Professor Introduction to Data Science (MATH 0113 \CAIS 0103) Introduction to Coding with Python (CAIS 0117) Elementary Statistics (MATH 0108)	Fall 2023 -
Northeastern University Assistant Teaching Professor Information Visualization (DS 4200) Data Science Programming Practicum (DS 2001) Discrete Structures and Recitation (CS 1800 and 1802)	Fall 2021 - Spring 2023
Tufts University Co-instructor Visualization Seminar (COMP 250) Directed Study in Visual Analytics (COMP 194)	Fall 2020, Spring 2021
Northeastern University Instructor Pre-Align Math Introduction Course	Summer 2019
Tufts University Teaching Assistant Discrete Mathematics (COMP 61) Computer Graphics (COMP 175)	Fall 2016 - Spring 2017, Spring 2019
Tufts University Undergraduate Research Coordinator Visual Analytics Lab at Tufts (VALT)	Summer 2017
Smith College Teaching Assistant Calculus 1 (MTH 111) Calculus 2 (MTH 112) Introduction to Discrete Mathematics (MTH 153) Linear Algebra (MTH 211) Calculus 3 (MTH 212) Modeling in the Sciences (MTH 205) Spinelli Center for Quantitative Learning	Fall 2013 - Spring 2014

TALKS

Boston Museum of Science Invited Speaker Talk to a Scientist - Pride Month	Summer 2023
Tufts University Guest Lecture Visual Analytics (COMP 150)	Fall 2019

REVIEWING ACTIVITIES

IEEE Computer Graphics and Applications (CGA) <i>2022</i>
ACM CHI Conference on Human Factors in Computing Systems (CHI) <i>2021, 2022</i>
International Journal of Human - Computer Studies (IJHCS) <i>2020</i>
IEEE Transactions on Visualization and Computer Graphics (TVCG) <i>2020, 2022</i>

IEEE VIS: Visualization & Visual Analytics (VIS)

2021, 2022

IEEE Conference on Information Visualization (InfoVis)

2019, 2020

IEEE Conference on Visual Analytics Science and Technology (VAST)

2019, 2020

Eurographics Conference on Visualization (EuroVis)

2019

WORKSHOP ORGANIZATION

IEEE VIS Visualization for Social Good (vis4good)

2021, 2022, 2023 Papers/Program Committee

IEEE VIS Visualization for Communication (VisComm)

2021 Student Volunteer, *2022* Program Committee

IEEE VIS Machine Learning from User Interactions for Visualization and Analytics (MLUI)

2020, 2021 Organizer

PROFESSIONAL MEMBERSHIPS

Association for Computing Machinery (ACM)

IEEE Computer Society

American Statistical Association (ASA)

FELLOWSHIPS

Cultural Competence in Computing (3C) Fellow

2022 - 2024

SERVICE

Teaching Assistant Committee

Khoury College, Northeastern University

Fall 2022 - Spring 2023

Full-time Non-Tenure Track Hiring Committee

Khoury College, Northeastern University

Fall 2021 – Spring 2023

Diversity and Inclusion Full-time Non-Tenure Track Hiring Subcommittee

Khoury College, Northeastern University

Fall 2021 – Spring 2023

LEADERSHIP POSITIONS

President

Tufts ACM-W Student Chapter

Spring 2017 – Spring 2019

Member

Tufts Computer Science Student Council

Spring 2018 – Spring 2019

First Year and Master's Representative

Tufts Graduate Computer Science Student Council

Spring 2017 – Spring 2018