

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

Northeastern University Boston, MA
Assistant Teaching Professor September 2021 -

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

Research Experience for Undergraduates, SUNY Potsdam Potsdam, NY
Student Researcher June 2013 - August 2013

PUBLICATIONS

- [1] 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**
- [2] **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.
- [3] 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.
- [4] **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.

- [5] 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.
- [6] 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.
- [7] 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.
- [8] 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.
- [9] **Mosca, A.** & Teitelbaum, N.D. (2015). Pancreas. In Brehm, B.A. (ed.), *Nutrition: Science, Issues, and Applications*. Santa Barbara, CA: Greenwood Press.
- [10] **Mosca, A.** (2015). Microbiota and Microbiome. In Brehm, B.A. (ed.), *Nutrition: Science, Issues, and Applications*. Santa Barbara, CA: Greenwood Press.
- [11] **Mosca, A.** (2015). Polyphenols. In Brehm, B.A. (ed.), *Nutrition: Science, Issues, and Applications*. Santa Barbara, CA: Greenwood Press.

PAPERS IN SUBMISSION \ PREPARATION

- [12] A. Suh, Y. Jiang, **A. Mosca**, E. Wu, and R. Chang. A Grammar for Hypothesis-Driven Visual Analytics. (In preparation)

WORKSHOPS AND POSTERS

- 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.

REVIEWING ACTIVITIES

- IEEE Computer Graphics and Applications (CGA)**
2022
- ACM CHI Conference on Human Factors in Computing Systems (CHI)**
2021, 2022
- International Journal of Human - Computer Studies (IJHCS)**
2020
- IEEE Transactions on Visualization and Computer Graphics (TVCG)**
2020, 2022
- 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 and IEEE Visualization and Graphics Technical Committee Conference on Visualization (EuroVis)

2019

WORKSHOP ORGANIZATION

IEEE VIS Visualization for Social Good (vis4good)

2021, 2022 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)

2016 - 2022

IEEE Computer Society

2016 - 2022

American Statistical Association (ASA)

2020 - 2022

FELLOWSHIPS

Cultural Competence in Computing (3C) Fellow

2022 - 2024

TEACHING EXPERIENCE

Assistant Teaching Professor at Northeastern University Fall 2022
Information Visualization (DS 4200)

Assistant Teaching Professor at Northeastern University Fall 2022
Data Science Programming Practicum (DS 2001)

Assistant Teaching Professor at Northeastern University Spring 2022
Information Visualization (DS 4200)

Assistant Teaching Professor at Northeastern University Spring 2022
Discrete Structures & Recitation (CS 1800 & 1802)

Assistant Teaching Professor at Northeastern University Fall 2021
Information Visualization (DS 4200)

Assistant Teaching Professor at Northeastern University Fall 2021
Discrete Structures Recitation (CS 1802)

Co-instructor at Tufts University Visualization Seminar (COMP 250)	Fall 2020
Co-instructor at Tufts University Directed Study in Visual Analytics (COMP 194)	Spring 2020
Guest Lecture at Tufts University Visual Analytics (COMP 150)	Fall 2019
Instructor at Northeastern University Pre-Align Math Introduction Course	Summer 2019
Teaching Assistant at Tufts University Computer Graphics (COMP 175)	Spring 2019
Undergraduate Research Coordinator at Tufts University Visual Analytics Lab at Tufts (VALT)	Summer 2017
Head Teaching Assistant at Tufts University Discrete Mathematics (COMP 61)	Fall 2016 - Spring 2017
Undergraduate Teaching Assistant at Smith College Modeling in the Sciences (MTH 205)	Spring 2014
Quantitative Tutor at Smith College Spinelli Center for Quantitative Learning	Fall 2013 - Spring 2014
Peer Tutor at Smith College Mathematics (MTH 111, 112, 153, 211, 212)	Spring 2012 - Spring 2014

UNDERGRADUATE AND MASTERS RESEARCH

Vedanshi Shah Northeastern 2023 Cooperative Education (co-op) in Visualization Research	Fall 2022
Simone Ritcheson 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

SERVICE

Teaching Assistant Committee <i>Khoury College, Northeastern University</i>	Fall 2022 -
Full-time Non-Tenure Track Hiring Committee <i>Khoury College, Northeastern University</i>	Fall 2021 –
Diversity and Inclusion Full-time Non-Tenure Track Hiring Subcommittee <i>Khoury College, Northeastern University</i>	Fall 2021 –

LEADERSHIP POSITIONS

President <i>Tufts ACM-W Student Chapter</i>	Spring 2017 – Spring 2019
Member <i>Tufts Computer Science Student Council</i>	Spring 2018 – Spring 2019
First Year and Master’s Representative <i>Tufts Graduate Computer Science Student Council</i>	Spring 2017 – Spring 2018
Captain <i>Smith College Track & Field</i>	Spring 2013 – Spring 2014
Captain <i>Smith College Cross Country</i>	Fall 2012 – Fall 2013