

ANGIE BOGGUST

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32-G816, 32 Vassar St. Cambridge, MA 02139

EDUCATION

Ph.D. in Computer Science

Massachusetts Institute of Technology

Advisor: Arvind Satyanarayan, Visualization Group, CSAIL

GPA: 5.0/5.0

2020 **M.Eng in Computer Science**

Massachusetts Institute of Technology

Thesis: *Unsupervised Audio-Visual Learning in the Wild*

Advisor: James Glass, Spoken Language Systems Group, CSAIL

Concentration: Machine Learning; Human Computer Interaction

GPA: 5.0/5.0

 [Thesis](#)

2018 **S.B. in Computer Science**

Massachusetts Institute of Technology

Minor: Economics

GPA: 4.6/5.0

ACADEMIC RESEARCH

- 2020 – Present **MIT CSAIL Visualization Group**
Research Assistant with Prof. Arvind Satyanarayan
Investigating methods to interpret and visualize machine learning model behavior and uncertainty.
- 2019 – 2020 **MIT CSAIL Visualization Group**
Research Collaborator with Prof. Arvind Satyanarayan
Designed and evaluated an interactive visual system to compare embedding spaces.
- 2018 – 2020 **MIT CSAIL Spoken Language Systems Group**
Research Assistant with Dr. James Glass
Explored self-supervised machine learning methods capable of learning semantic concepts from unlabeled instructional videos.
- 2016 – 2018 **MIT CSAIL Spoken Language Systems Group**
Undergraduate Researcher with Dr. James Glass
Applied deep learning and regression techniques to detect early stage Alzheimer's Disease and clinical depression from patient speech.
- Jan. 2016 **Leiden Institute of Advanced Computer Science**
Visiting Researcher with Profs. Aske Plaat and Siegfried Nijssen
Investigated decision tree models to predict a patient's blood transfusion need from clinical time-series data to assist ICU physicians in making patient-care decisions.
- 2015 – 2016 **MIT Glenn Lab for the Science of Aging**
Undergraduate Researcher with Prof. Leonard Guarente
Designed statistical models and data visualizations to investigate correlations between gene expression and the onset of Alzheimer's Disease.

INDUSTRY RESEARCH

- Summer 2023 **Apple**
Research Intern in Human Centered Machine Intelligence with Dr. Fred Hohman
Designed visual analytics tools to help model compression engineers and researchers evaluate, monitor, and improve their model compression strategies.
- Summer 2022 **IBM Research**
Research Intern in the Visual AI Lab with Dr. Hendrik Strobelt
Researched visual and algorithmic methods to communicate machine learning model uncertainty to human stakeholders.
- Summer 2021 **IBM Research**
Research Intern in the Visual AI Lab with Dr. Hendrik Strobelt
Synthesized a framework to analyze, compare, and document saliency methods.
- Summer 2020 **IBM Research**
Research Intern in the Visual AI Lab with Dr. Hendrik Strobelt
Developed methods for large-scale analysis of model behavior by quantifying the relationship between model and human decision making.

PUBLICATIONS

- 2023 **VisText: A Benchmark for Semantically Rich Chart Captioning**
Benny J. Tang*, [Angie Boggust*](#), Arvind Satyanarayan
The Annual Meeting of the Association for Computational Linguistics (ACL) 2023
[Project](#) [Paper](#) [Video](#) [Repo](#) [MIT News](#)
🏆 Outstanding Paper
- Saliency Cards: A Framework to Characterize and Compare Saliency Methods**
[Angie Boggust*](#), Harini Suresh*, Hendrik Strobelt, John Guttag, Arvind Satyanarayan
ACM Conference on Fairness, Accountability, and Transparency (FAccT) 2023
[Project](#) [Paper](#) [Video](#) [Repo](#) [MIT News](#)
- 2022 **Shared Interest: Measuring Human-AI Alignment to Identify Recurring Patterns in Model Behavior**
[Angie Boggust](#), Benjamin Hoover, Arvind Satyanarayan, Hendrik Strobelt
ACM Conference on Human Factors in Computing Systems (CHI) 2022
[Project](#) [Paper](#) [Preview](#) [Video](#) [Demo](#) [Code](#) [MIT News](#) [IEEE Spectrum](#)
🏆 Best Paper Honorable Mention
- Embedding Comparator: Visualizing Differences in Global Structure and Local Neighborhoods via Small Multiples**
[Angie Boggust*](#), Brandon Carter*, Arvind Satyanarayan
ACM Conference on Intelligent User Interfaces (IUI) 2022
[Project](#) [Paper](#) [Video](#) [Demo](#) [Code](#)
🏆 Best Paper Honorable Mention
- 2021 **AVLnet: Learning Audio-Visual Language Representations from Instructional Videos**
Andrew Rouditchenko*, [Angie Boggust*](#), David Harwath, Brian Chen, Dhiraj Joshi, Samuel Thomas, Kartik Audhkhasi, Hilde Kuehne, Rameswar Panda, Rogerio Feris, Brian Kingsbury, Michael Picheny, Antonio Torralba, James Glass
Conference of the International Speech Communication Association (INTERSPEECH) 2021
[Project](#) [Paper](#) [Code](#)

Cascaded Multilingual Audio-Visual Learning from Videos

Andrew Rouditchenko, [Angie Boggust](#), David Harwath, Samuel Thomas, Hilde Kuehne, Brian Chen, Rameswar Panda, Rogerio Feris, Brian Kingsbury, Michael Picheny, James Glass

Conference of the International Speech Communication Association (INTERSPEECH) 2021

 [Paper](#)

Multimodal Clustering Networks for Self-supervised Learning from Unlabeled Videos

Brian Chen, Andrew Rouditchenko, Kevin Duarte, Hilde Kuehne, Samuel Thomas, [Angie Boggust](#), Rameswar Panda, Brian Kingsbury, Rogerio Feris, David Harwath, James Glass, Michael Picheny, Shih-Fu Chang

IEEE International Conference on Computer Vision (ICCV) 2021

 [Paper](#)  [Code](#)

2020 Unsupervised Audio-Visual Learning in the Wild

[Angie Boggust](#)

MIT M.Eng Thesis

 [Thesis](#)

WORKSHOPS, POSTERS, & DEMOS

2023 Uncertainty Fingerprints: Interpreting Model Decisions with Human Conceptual Hierarchies

[Angie Boggust](#), Hendrik Strobelt, Arvind Satyanarayan

International Conference on Machine Learning (ICML) AI & HCI Workshop

 [Poster](#)

2021 Shared Interest: Large-Scale Visual Analysis of Model Behavior by Measuring Human-AI Alignment

[Angie Boggust](#), Benjamin Hoover, Arvind Satyanarayan, Hendrik Strobelt

International Conference on Machine Learning (ICML) Workshop on Human in the Loop Learning (HILL)

 [Project](#)  [Poster](#)

2020 Shared Interest: Human Annotation vs. AI Saliency

[Angie Boggust](#), Benjamin Hoover, Arvind Satyanarayan, Hendrik Strobelt

Neural Information Processing Systems (NeurIPS) Demo

 [Project](#)  [Video](#)

2019 Grounding Spoken Language in Unlabeled Video

[Angie Boggust](#), Kartik Audhkhasi, Dhiraj Joshi, David Harwath, Samuel Thomas, Rogerio Feris, Dan Gutfreund, Yang Zhang, Antonio Torralba, Michael Picheny, James Glass

Computer Vision and Pattern Recognition (CVPR) Sight and Sound Workshop

 [Paper](#)  [Poster](#)

TALKS

Saliency Cards

Jul. 2023 IBM

Jun. 2023 ACM Conference on Fairness, Accountability, and Transparency (FAccT)

Jun. 2023 Apple

Human-Aligned Machine Learning

Jul. 2022 University of Konstanz

Nov. 2021 MIT EECS GW6 Summit

Shared Interest

Apr. 2022 ACM Conference on Human Factors in Computing Systems (CHI)

Dec. 2020 Neural Information Processing Systems (NeurIPS) Demo

Oct. 2020 Workshop on Visualization for AI Explainability (VISxAI) at IEEE Visualization Conference (VIS)

The Embedding Comparator

Mar. 2022 ACM Conference on Intelligent User Interfaces (IUI)

Nov. 2019 CSAIL-MSR Trustworthy and Robust AI Workshop

PRESS

Jun. 2023 **Researchers teach an AI to write better chart captions**

Adam Zewe, MIT News

 [Article](#)

May. 2023 **New tool helps people choose the right method for evaluating AI models**

Adam Zewe, MIT News

 [Article](#)

Apr. 2022 **Does this artificial intelligence think like a human?**

Adam Zewe, MIT News

 [Article](#)

Apr. 2022 **New Test Compares AI Reasoning With Human Thinking**

Charles Q. Choi, IEEE Spectrum

 [Article](#)

AWARDS

2023 **Outstanding Paper Award**

VisText received an Outstanding Paper award at ACL 2023.

2022 **IEEE CIS Graduate Student Research Grant**

Research grant to collaborate with colleagues at the University of Konstanz.

MIT International Science and Technology Initiatives Research Grant

Travel grant to collaborate with colleagues at the University of Konstanz.

Best Paper Honorable Mention Award

Shared Interest received a Best Paper Honorable Mention award at CHI 2022.

SIGCHI Gary Marsden Travel Award

Funding to attend the ACM Conference on Human Factors in Computing Systems (CHI) 2022.

Best Paper Honorable Mention Award

The Embedding Comparator received a Best Paper Honorable Mention award at IUI 2022.

2020 **John W. Jarve (1978) Fellowship**

MIT full graduate fellowship for the 2020 – 2021 academic year.

2016 **Palantir Women in Technology Scholarship**

Awarded \$5,000 based on academic and research excellence. Selected as one of ten finalists out of 3000 applicants.

Johnson & Johnson Scholar

Awarded \$5,280 for outstanding undergraduate research. Selected as one of 18 scholars from MIT's summer undergraduate researchers.

MIT International Science and Technology Initiatives Research Grant

Travel grant to research medical applications of time-series modeling at Leiden University.

TEACHING

Spring 2020 **6.009: Fundamentals of Programming**
Graduate TA with Profs. Ana Bell, Duane Boning, Max Goldman, and Adam Hartz
Taught fundamental programming concepts in Python to 400 students, in-person and remotely.
Led a team of over 100 undergraduate TAs to conduct daily office hours.

Fall 2019 **6.009: Fundamentals of Programming**
Graduate TA with Profs. Srinivas Devadas and Erik Demaine
Developed new teaching materials, laboratory assignments, and exams for a course of 400 students. Delivered weekly recitations teaching fundamental programming concepts to a group of 30 students. Supervised weekly office hours.

SERVICE

Research Mentor

Zoe De Simone, MIT SMArchS 2024
Moulinrouge Kaspar, MIT M.Eng. 2024
Helen Bang, MIT M.Eng. 2024
Ben Tang, MIT M.Sc. 2023

Program Committee

Workshop on Visualization for AI Explainability (VISxAI) at IEEE VIS 2022, 2023

Reviewer

Neural Information Processing Systems (NeurIPS) 2022
International Conference on Machine Learning (ICML) 2022, 2023
ACM Conference on Human Factors in Computing Systems (CHI) 2022
Neural Information Processing Systems (NeurIPS) Demonstration Track 2021
Workshop on Visualization for AI Explainability (VISxAI) at IEEE VIS 2021

Member

Association for Computing Machinery (ACM)
Institute of Electrical and Electronics Engineers (IEEE)

2019 – Present

MIT Admissions

Educational Counsellor

Interview prospective undergraduate students on behalf of the Admissions Committee to provide additional context about the applicants and answer questions about MIT.