ANGIE BOGGUST

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32-G714, 32 Vassar St. Cambridge, MA 02139

EDUCATION

PhD in Computer Science
Massachusetts Institute of Technology
Advisor: Arvind Satyanarayan, Visualization Group, CSAIL
GPA: 5.0

2020 **MEng in Computer Science**
Massachusetts Institute of Technology
Advisor: Jim Glass, Spoken Language Systems Group, CSAIL
Concentration: Machine Learning and Human Computer Interaction
Thesis: Unsupervised Audio-Visual Learning in the Wild
GPA: 5.0
Thesis

2018 **SB in Computer Science**
Massachusetts Institute of Technology
Minor: Economics
GPA: 4.6

ACADEMIC RESEARCH

2020 – Present **Massachusetts Institute of Technology**
Research Assistant, Visualization Group
Mentor: Arvind Satyanarayan
Investigating methods to expose and communicate the human-alignment of AI systems.

2018 – 2020 **Massachusetts Institute of Technology**
Research Assistant, Spoken Language Systems Group
Mentors: Jim Glass • David Harwath
Built self-supervised machine learning models capable of learning semantic concepts from unlabeled instructional videos.

2016 – 2018 **Massachusetts Institute of Technology**
Undergraduate Researcher, Spoken Language Systems Group
Mentors: Jim Glass • Tuka Alhanai
Applied machine learning techniques to detect early stage Alzheimer's Disease and clinical depression from patient speech.

Jan. 2016 **Leiden University**
Visiting Researcher, Institute of Advanced Computer Science
Mentors: Aske Plaat • Siegfried Nijssen
Developed clinical machine learning models to assist ICU physicians in estimating patients' blood transfusion needs.

2015 – 2016 **Massachusetts Institute of Technology**
Undergraduate Researcher, Paul F. Glenn Center for Biology of Aging Research
Mentors: Leonard P. Guarente • Christin Glorioso
Investigated correlations between gene expression and the onset of Alzheimer's Disease via computational methods.

INDUSTRY RESEARCH

Summer 2025 **Apple**
Research Intern, Artificial Intelligence and Machine Learning Visualization Group
Mentors: Fred Hohman • Yannick Assogba • Donghao Ren • Dominik Moritz

Summer 2023 **Apple**
Research Intern, Artificial Intelligence and Machine Learning Visualization Group
Mentors: Fred Hohman • Yannick Assogba • Donghao Ren • Dominik Moritz
Designed visual analytics tools to help model compression engineers evaluate and improve their model compression strategies.

Summer 2022 **IBM Research**
Research Intern, Visual AI Lab
Mentor: Hendrik Strobelt
Investigated visual and algorithmic methods to communicate machine learning model uncertainty to human stakeholders.

Summer 2021 **IBM Research**
Research Intern, Visual AI Lab
Mentor: Hendrik Strobelt
Synthesized a framework to document, compare, and communicate how model explanations perform across domains.

Summer 2020 **IBM Research**
Research Intern, Visual AI Lab
Mentor: Hendrik Strobelt
Developed methods for large-scale analysis of model behavior by quantifying the relationship between model and human decision making.

PUBLICATIONS

2026 **Semantic Regexes: Auto-Interpreting LLM Features with a Structured Language**
Angie Boggust • Donghao Ren • Yannick Assogba • Dominik Moritz • Arvind Satyanarayan • Fred Hohman
Under Review at International Conference on Learning Representations (ICLR) 2026
Paper

2025 **Abstraction Alignment: Comparing Model-Learned and Human-Encoded Conceptual Relationships**
Angie Boggust • Hyemin Bang • Hendrik Strobelt • Arvind Satyanarayan
ACM Human Factors in Computing Systems (CHI) 2025
Project Paper Demo Video Preview Code

LeGrad: An Explainability Method for Vision Transformers via Feature Formation Sensitivity
Walid Bousselham • **Angie Boggust** • Sofian Chaybouti • Hendrik Strobelt • Hilde Kuehne
International Conference on Computer Vision (ICCV) 2025
Paper Code

2024 **Compress and Compare: Interactively Evaluating Efficiency and Behavior Across ML Model Compression Experiments**
Angie Boggust* • Venkatesh Sivaraman* • Yannick Assogba • Donghao Ren • Dominik Moritz • Fred Hohman
IEEE Transactions on Visualization & Computer Graphics (VIS) 2024
Project Paper Video Preview Code

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 Dataset Code Press
Outstanding Paper

Saliency Cards: A Framework to Characterize and Compare Saliency Methods
Angie Boggust* • Harini Suresh* • Hendrik Strobelt • John V. Guttag • Arvind Satyanarayan
ACM Conference on Fairness, Accountability, and Transparency (FAccT) 2023
Project Paper Video Repo Press

DiffusionWorldViewer: Exposing and Broadening the Worldview Reflected by Generative Text-to-Image Models
Zoe De Simone • **Angie Boggust** • Arvind Satyanarayan • Ashia Wilson
arXiv 2023
Paper Code

2022 **Shared Interest: Measuring Human-AI Alignment to Identify Recurring Patterns in Model Behavior**
Angie Boggust • Benjamin Hoover • Arvind Satyanarayan • Hendrik Strobelt
ACM Human Factors in Computing Systems (CHI) 2022
Project Paper Demo Video Preview Code Press
Best Paper Honorable Mention

Embedding Comparator: Visualizing Differences in Global Structure and Local Neighborhoods via Small Multiples
Angie Boggust* • Brandon Carter* • Arvind Satyanarayan
ACM Intelligent User Interfaces (IUI) 2022
Project Paper Demo Video 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 • Jim Glass
INTERSPEECH Conference 2021
Project Paper Video Code

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 • Jim Glass • Brian Chen • Dhiraj Joshi • Michael Picheny
International Conference on Computer Vision (ICCV) 2021
Paper

Cascaded Multilingual Audio-Visual Learning from Videos
Andrew Rouditchenko • **Angie Boggust** • David Harwath • Samuel Thomas • Hilde Kuehne • Brian Chen • Rameswar Panda • Rogerio Feris • Michael Picheny • Jim Glass
INTERSPEECH Conference 2021
Project Paper Video Code

WORKSHOPS & DEMOS

2025 **Chatbot Evaluation Is (Sometimes) Ill-Posed: Contextualization Errors in the Human-Interface-Model Pipeline**
Aspen Hopkins* • **Angie Boggust*** • Harini Suresh*
Human-centered Evaluation and Auditing of Language Models (HEAL) Workshop at ACM Human Factors in Computing Systems (CHI) 2025
Paper

2024 **Explanation Alignment: Quantifying the Correctness of Model Reasoning At Scale**
Hyemin Bang • **Angie Boggust** • Arvind Satyanarayan
European Conference on Computer Vision (ECCV) Explainable Computer Vision Workshop 2024
Project Paper Code

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 2023
Paper 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) 2021
Project Poster

2020 **Shared Interest: Human Annotation vs. AI Saliency**
Angie Boggust • Benjamin Hoover • Arvind Satyanarayan • Hendrik Strobelt
Neural Information Processing Systems (NeurIPS) Demonstration 2020
Project Video

Shared Interest: Human Annotation vs. AI Saliency
Angie Boggust • Benjamin Hoover • Arvind Satyanarayan • Hendrik Strobelt
IEEE VIS Workshop of Visualization for AI Explainability (VISxAI) 2020
Project

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 • Jim Glass
Computer Vision and Pattern Recognition (CVPR) Sight and Sound Workshop 2019
Paper Poster

TALKS & PANELS

Semantic Regexes for LLM Auto-Interpretability
Sep 2025 Apple

Human-Centric AI Alignment
May 2025 Boston Visualization + AI Meetup

Abstraction Alignment
Apr 2025 ACM Human Factors in Computing Systems (CHI) | Talk

Compress and Compare
Oct 2024 IEEE Transactions on Visualization & Computer Graphics (VIS) | Talk
Aug 2024 Apple

How mechanistic interpretability can help keep AI safe and beneficial
Aug 2024 New England Mechanistic Interpretability Workshop

Saliency Cards
Jul 2023 IBM
Jun 2023 ACM Conference on Fairness, Accountability, and Transparency (FAccT) | Talk
Jun 2023 Apple

Human-Aligned Machine Learning
Jul 2022 University of Konstanz
Nov 2021 MIT EECS Graduate Women of Course 6 Summit

Shared Interest
Jun 2022 MIT Open Learning Horizons | Talk
May 2022 ACM Human Factors in Computing Systems (CHI) | Talk
Dec 2020 Neural Information Processing Systems (NeurIPS) Demonstration
Oct 2020 IEEE VIS Workshop of Visualization for AI Explainability (VISxAI)

The Embedding Comparator
Mar 2022 ACM Intelligent User Interfaces (IUI) | Talk
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 **New Test Compares AI Reasoning With Human Thinking**
Charles Q. Choi, IEEE Spectrum
Article

Apr 2022 **Does this artificial intelligence think like a human?**
Adam Zewe, MIT News
Article

AWARDS & GRANTS

2025 **MIT Research Mentoring Certificate**
Completed a 3-session mentoring workshop.

NDIF 405B Pilot Program
Research project selected for access to Llama 405B through NDIF. *Research Grant*

2024 **MIT Grant Writing Training Certificate**
Completed a 4-session grant writing training program.

Apple Scholars in AIML PhD Fellowship
Full graduate fellowship for the 2024–2026 academic years. *PhD Fellowship*

2023 **ACL Outstanding Paper Award**
VisText received an Outstanding Paper award at ACL 2023. *Paper Award*

2022 **MIT International Science and Technology Initiatives Research Grant**
Travel grant to collaborate with colleagues at the University of Konstanz.

IEEE CIS Graduate Student Research Grant
Research grant to collaborate with colleagues at the University of Konstanz.

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

SIGCHI Gary Marsden Travel Award
Funding to attend the ACM Conference on Human Factors in Computing Systems (CHI) 2022.

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

2020 **MIT John W. Jarve (1978) Fellowship**
MIT full graduate fellowship for the 2020–2021 academic year. *PhD Fellowship*

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 research funding for outstanding undergraduate research. Selected as one of 18 scholars from MIT's summer undergraduate researchers.

2015 **MIT International Science and Technology Initiatives Research Grant**
Travel grant to research medical applications of time-series modeling at Leiden University.

TEACHING

Spring 2025 **6.C85[J]: Interactive Data Visualization and Society**
Guest Lecturer: Visualization + AI
Professors: Catherine D'Ignazio • Crystal Lee • Arvind Satyanarayan
Guest lectured on the role of visualization in understanding AI models and their behavior.
Slides

Spring 2025 **CSCI 1302: Introduction to Sociotechnical Systems and HCI**
Guest Lecturer: AI Interpretability
Professors: Harini Suresh • Diana Freed
Developed and delivered a guest lecture on interpretability and how it shapes our relationship with AI systems.
Slides

Spring 2020 **6.009: Fundamentals of Programming**
Graduate Teaching Assistant
Professors: Ana Bell • Duane Boning • Max Goldman • 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 Teaching Assistant
Professors: Srini Devadas • 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

Fa 2022–Sp 2025 Hyemin Bang
MIT EECS MEng 2025 → MIT EECS PhD Student

Summer 2024 Helena Vasconcelos
Stanford University BS 2025 → Harvard University PhD Student

Su 2023–Sp 2024 Zoe De Simone
MIT EECS MSc 2024 → MIT EECS PhD Student

Su 2023–Sp 2024 Moulinrouge Kaspar
MIT EECS MEng 2024 → Business Analyst at McKinsey & Company

Fa 2021–Sp 2023 Benny J. Tang
MIT EECS MSc 2023 → Research Engineer at Meta

Organizer

IEEE VIS Workshop of Visualization for AI Explainability (VISxAI) 2022, 2023, 2024, and 2025

Program Committee

IEEE VIS Workshop of Visualization for AI Explainability (VISxAI) 2021

Reviewer

ACM Human Factors in Computing Systems (CHI) 2022, 2024, 2025, and 2026
IEEE Transactions on Visualization & Computer Graphics (VIS) 2024 and 2025
IEEE/CVF Computer Vision and Pattern Recognition Conference (CVPR) 2025
IEEE Transactions on Visualization and Computer Graphics (TVCG) 2025
ACM Symposium on User Interface Software and Technology (UIST) 2025
Neural Information Processing Systems (NeurIPS) 2021, 2022, and 2024
International Conference on Machine Learning (ICML) 2022, 2023, and 2024

Student Volunteer

IEEE Transactions on Visualization & Computer Graphics (VIS) 2024

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.