

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 that allow human stakeholders to estimate, measure, and shape 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 multimodal 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. Guarante • Christin Glorioso
Applied computational methods to identify correlations between human gene expression and the onset of Alzheimer's disease.

INDUSTRY RESEARCH

Summer 2025 **Apple**

Research Intern, Artificial Intelligence and Machine Learning Visualization Group
Mentors: Fred Hohman • Yannick Assogba • Donghao Ren • Dominik Moritz
Developed an auto-interpretability method that improves human understanding of large language models' internal concepts, from simple lexical indicators to complex safety-relevant behaviors.

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 evaluate and optimize model compression pipelines, enabling Apple engineers to build efficient, accurate, and responsible on-device models.

Summer 2022 **IBM Research**

Research Intern, Visual AI Lab
Mentor: Hendrik Strobelt
Investigated visualization and algorithmic methods to accurately communicate machine learning model uncertainty to human stakeholders.

Summer 2021	IBM Research Research Intern, Visual AI Lab Mentor: Hendrik Strobelt Created a standardized evaluation framework for AI explanation methods, helping human stakeholders select an appropriate method for their domain, understand their limitations, and apply them responsibly.
Summer 2020	IBM Research Research Intern, Visual AI Lab Mentor: Hendrik Strobelt Developed interpretability methods for large-scale analysis of machine learning model behavior by quantifying the alignment 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.