

Karima Ma

Massachusetts Institute of Technology

32-D466 Stata Center

Cambridge, MA 02139 U.S.A.

Phone: +1-646-733-7356

Email: karima@mit.edu

URL:

Education

2020 - expected 2024	Massachusetts Institute of Technology Doctor of Philosophy in Computer Science
2017 - 2020	University of California, Berkeley Doctor of Philosophy in Computer Science (Transferred to MIT) GPA 4.0
2014 - 2016	Carnegie Mellon University Master of Computer Science, 2016. GPA: 3.63
2010 - 2014	Dartmouth College B.A., Economics, 2014. GPA: 3.91 Minors: Computer Science, Chinese Honors: Phi Beta Kappa, <i>summa cum laude</i>

Areas of Specialization

Domain-Specific Program Synthesis - Machine Learning - Neural Architecture Search
Image Processing - Computer Graphics - High Performance Programming

Work Experience

2020 - present	Massachusetts Institute of Technology - CSAIL (Cambridge, MA) Graduate Research Assistant
Summer 2024	Adobe Creative Intelligence Lab (Cambridge) Research Internship
Summer 2023	Adobe Creative Intelligence Lab (San Francisco) Research Internship
Summer 2022	Adobe Creative Intelligence Lab (San Jose) Research Internship
Fall 2019	Adobe Creative Intelligence Lab (New York City, NY) Research Internship Facebook AI Research (Menlo Park, CA) Research Internship, Summer 2018
Summer 2017	Facebook Applied Machine Learning (Menlo Park, CA) Software Engineering Internship
2016 - 2017	Carnegie Mellon University (Pittsburgh, PA) Research Assistant

Teaching Experience

2023 - present	Massachusetts Institute of Technology, Research Mentor Undergraduate Research Opportunities Program
Fall 2021	Massachusetts Institute of Technology, TA Computer Graphics (6.837)
Spring 2016	Carnegie Mellon University, TA Parallel Computer Architecture and Programming (15-418/618)

Publications

Sketching with your voice: “Non-Phonorealistic” Rendering of Sounds via Vocal Imitation

Matthew Caren, Kartik Chandra, Joshua Tenenbaum, Jonathan Ragan-Kelley, Karima Ma
ACM Transactions on Graphics (SIGGRAPH ASIA 2024)

Searching for Fast Demosaicking Algorithms

Karima Ma, Michael Gharbi, Shoaib Kamil, Andrew Adams, Connelly Barnes, Tzu-Mao Li, Jonathan Ragan-Kelley
ACM Transactions on Graphics (SIGGRAPH 2022)

Efficient Automatic Scheduling of Imaging and Vision Pipelines for the GPU

Luke Anderson, Andrew Adams, Karima Ma, Tian Jin, Tzu-Mao Li, Jonathan Ragan-Kelley
ACM SIGPLAN (OOPSLA 2021)

Learning to Optimize Halide with Tree Search and Random Programs

Andrew Adams, Karima Ma, Luke Anderson, Riyadh Baghdadi, Tzu-Mao Li, Michael Gharbi, Benoit Steiner, Steven Johnson, Kayvon Fatahalian, Fredo Durand, Jonathan Ragan-Kelley
ACM Transactions on Graphics (SIGGRAPH 2019)

Ongoing Work

A system for automatically generating fast approximations of 1D and 2D filters across a range of throughput vs. signal quality trade-off demands (*In preparation, draft available upon request*)

Awards

2022	WiGRAPH Rising Star in Computer Graphics
2017 - 2018	ARCS Foundation Scholarship
2017	UC Berkeley EECS Excellence Award

Service

2023 - present	Massachusetts Institute of Technology, Visual Computing Seminar chair
2020, 2023-2024	ACM SIGGRAPH ASIA reviewer
2024	ACM SIGGRAPH reviewer