

Colin Samplawski

TRUSTWORTHY AI | DISTRIBUTED AI | GENERATIVE AI

Cambridge, MA • US Citizen

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Trustworthy AI systems, from sensors to agents.

Education

University of Massachusetts Amherst

PH.D. IN COMPUTER SCIENCE

Amherst, MA

Sep. 2017 – Feb. 2025

- Manning College of Information & Computer Sciences
- Robust & Efficient Machine Learning Lab with Professor Ben Marlin
- Thesis: *Uncertainty-Aware Computer Vision in Resource-Constrained Environments*

University of Wisconsin – Madison

B.S. IN COMPUTER SCIENCE AND MATHEMATICS

Madison, WI

Sep. 2011 – Dec. 2016

- Minor in German
- Study Abroad at the University of Bonn, Germany (Spring 2014)

Employment

SRI International • Neuro-Symbolic Computing and Intelligence Research Group

ADVANCED COMPUTER SCIENTIST

Remote

Oct. 2024 – Present

RESEARCH INTERN

Jun. 2023 – Aug. 2024

SAP Berlin

MACHINE LEARNING RESEARCH ASSOCIATE

Berlin, Germany

Jun. 2019 – Dec. 2019

University of Wisconsin Foundation

IT HELP DESK ASSISTANT

Madison, WI

Jun. 2013 – Dec. 2013

Conference Papers

Bayesian Adaptation Gym: A Benchmark for the Bayesian Low-Rank Adaptation of Multi-Modal Language Models

Colin Samplawski, Ramneet Kaur, Manoj Acharya, Anirban Roy, Adam D. Cobb

Oral at 42nd Conference on Uncertainty in Artificial Intelligence (UAI), 2026

“Do Diffusion Models Dream of Electric Planes?” Discrete and Continuous Simulation-Based Inference for Aircraft Design

Aurelien Ghiglino, Daniel Elenius, Anirban Roy, Ramneet Kaur, Manoj Acharya, Colin Samplawski, Brian Matejek, Susmit Jha, Juan Alonso, Adam D. Cobb

International Conference on Machine Learning (ICML), 2026

Generating Vehicle Designs Using Probabilistic Programs and Reinforcement Learning

Daniel Elenius, Aurelien Ghiglino, Krishiv Agarwal, Colin Samplawski, Anirban Roy, Susmit Jha, Juan Jose Alonso, Adam D. Cobb

19th International Design Conference (DESIGN), 2026

Privacy Preserving In-Context-Learning Framework for Large Language Models

Bishnu Bhusal, Manoj Acharya, Ramneet Kaur, Colin Samplawski, Anirban Roy, Adam D. Cobb, Rohit Chadha, Susmit Jha

40th AAAI Conference on Artificial Intelligence (AAAI), 2026

Scalable Bayesian Low-Rank Adaptation of Large Language Models via Stochastic Variational Subspace Inference

Colin Samplawski, Adam D. Cobb, Manoj Acharya, Ramneet Kaur, Susmit Jha

41st Conference on Uncertainty in Artificial Intelligence (UAI), 2025

End-to-End Differentiable Multi-View Tracking: Architecture and Fine-Tuning Experiments

Colin Samplawski, Shiwei Fang, Benjamin M. Marlin

28th International Conference on Information Fusion (FUSION), 2025

FlexLoc: Conditional Neural Networks for Zero-Shot Sensor Perspective Invariance in Object Localization with Distributed Multimodal Sensors

Jason Wu, Ziqi Wang, Xiaomin Ouyang, Ho Lyun Jeong, **Colin Samplawski**, Lance M. Kaplan, Benjamin Marlin, Mani Srivastava

IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2024

Temporally Multi-Scale Sparse Self-Attention for Physical Activity Data Imputation

Hui Wei, Maxwell A. Xu, **Colin Samplawski**, James M. Rehg, Santosh Kumar, Benjamin M. Marlin

Conference on Health, Inference, and Learning (CHIL), 2024

IoBT-MAX: A Multimodal Analytics eXperimentation Testbed for IoBT Research

Benjamin M. Marlin, Niranjan Suri, Shiwei Fang, Mani Srivastava, **Colin Samplawski**, Ziqi Wang, Maggie Wigness

IEEE Military Communications Conference (MILCOM), 2023

Heteroskedastic Geospatial Tracking with Distributed Camera Networks

Colin Samplawski, Shiwei Fang, Ziqi Wang, Deepak Ganesan, Mani Srivastava, Benjamin M. Marlin

39th Conference on Uncertainty in Artificial Intelligence (UAI), 2023

Optimizing Intelligent Edge-clouds with Partitioning, Compression and Speculative Inference

Shiwei Fang, Jin Huang, **Colin Samplawski**, Deepak Ganesan, Benjamin Marlin, Tarek Abdelzaher, Maggie B. Wigness

IEEE Military Communications Conference (MILCOM), 2021

Towards Transformer-Based Real-Time Object Detection at the Edge: A Benchmarking Study

Colin Samplawski, Benjamin M. Marlin

IEEE Military Communications Conference (MILCOM), 2021

Towards an Accurate Latency Model for Convolutional Neural Network Layers on GPUs

Jinyang Li, Runyu Ma, Vikram Sharma Mailthody, **Colin Samplawski**, Benjamin Marlin, Songqing Chen, Shuochao Yao, Tarek Abdelzaher

IEEE Military Communications Conference (MILCOM), 2021

CLIO: Enabling Automatic Compilation of Deep Learning Pipelines Across IoT and Cloud

Jin Huang, **Colin Samplawski**, Deepak Ganesan, Benjamin M. Marlin, Heesung Kwon

26th Annual International Conference on Mobile Computing and Networking (MobiCom), 2020

Workshop Papers and Preprints

Formally Verified Code Synthesis for Structured Data Translation in a Medical Internet of Things

Colin Samplawski, Adam D. Cobb

Spotlight Paper at *Workshop on Structured Data for Health*

International Conference on Machine Learning (ICML), 2026

Breaking Bad: Interpretability-Based Safety Audits of State-of-the-Art LLMs

Krishiv Agarwal, Ramneet Kaur, **Colin Samplawski**, Manoj Acharya, Anirban Roy, Daniel Elenius, Brian Matejek, Adam D. Cobb, Susmit Jha

Workshop on Preventing Unauthorized Knowledge Use from Large Language Models

Conference on Neural Information Processing Systems (NeurIPS), 2025

A Preliminary Study into the Conceptual Design of Aircraft using Simulation-Based Inference

Aurelien Ghigino, Daniel Elenius, Anirban Roy, Ramneet Kaur, Manoj Acharya, **Colin Samplawski**, Brian Matejek, Susmit Jha, Juan Alonso, Adam D. Cobb

Workshop on Machine Learning and the Physical Sciences

Conference on Neural Information Processing Systems (NeurIPS), 2025

AGENT: An Aerial Vehicle Generation and Design Tool Using Large Language Models

Colin Samplawski, Adam D. Cobb, Susmit Jha

arXiv preprint, 2025

Addressing Uncertainty in LLMs to Enhance Reliability in Generative AI

Ramneet Kaur, **Colin Samplawski**, Adam D. Cobb, Anirban Roy, Brian Matejek, Manoj Acharya, Daniel Elenius, Alexander Michael Berenbeim, John A. Pavlik, Nathaniel D. Bastian, Susmit Jha

Workshop on Safe Generative AI

Conference on Neural Information Processing Systems (NeurIPS), 2024

Uncertainty Quantification Using Query-Based Object Detectors

Meet P. Vadera, **Colin Samplawski**, Benjamin M. Marlin

Workshop on Uncertainty Quantification for Computer Vision

European Conference on Computer Vision (ECCV), 2022

Towards Object Detection Under IoT Resource Constraints: Combining Partitioning, Slicing and Compression

Colin Samplawski, Jin Huang, Deepak Ganesan, Benjamin M. Marlin

2nd International Workshop on Challenges in Artificial Intelligence and Machine Learning for Internet of Things

ACM Conference on Embedded Networked Sensor Systems (SenSys), 2020

Zero-Shot Learning in the Presence of Hierarchically Coarsened Labels

Colin Samplawski, Erik Learned-Miller, Heesung Kwon, Benjamin M. Marlin

Workshop on Visual Learning with Limited Labels

IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2020

Learning Graph-Based Priors for Generalized Zero-Shot Learning

Colin Samplawski, Jannik Wolff, Tassilo Klein, Moin Nabi

1st International Workshop on Deep Learning on Graphs: Methodologies and Applications

AAAI Conference on Artificial Intelligence (AAAI), 2020

Weakly Supervised Content and Style Disentanglement with Gaussian Mixture VAEs

Jan Nikolas Morshuis, **Colin Samplawski**, Moin Nabi

Workshop on Information Theory and Machine Learning

Conference on Neural Information Processing Systems (NeurIPS), 2019

Teaching Experience

University of Massachusetts Amherst

TEACHING ASSISTANT

- CS190D: Using Data Structures (Fall 2017) with Marc Liberatore
- CS377: Operating Systems (Spring 2018) with Ahmed Ali-Eldin

Amherst, MA

Sep. 2017 – May 2018

Reviewing Service

- Conference on Uncertainty in Artificial Intelligence (UAI), 2026
- European Conference on Computer Vision (ECCV), 2026
- International Conference on Information Fusion (FUSION), 2026
- Conference on Neural Information Processing Systems (NeurIPS), 2024

Skills

Programming	Python, C, Bash, MATLAB, Java
Deep Learning	PyTorch, HuggingFace, JAX, TensorFlow
Deployment	ONNX, TensorRT, NVIDIA Jetson, Arduino, Slurm
Linux Terminal	git, vim, ssh, tmux, docker
Spoken Languages	English (native), German (proficient)