

James Seale Smith

Atlanta, GA | jamessealesmith(at)gatech.edu | [\[Webpage\]](#) | [\[Google Scholar\]](#)

RESEARCH FOCUS I want to build vision and language systems which learn from data that is from multiple sources and distributions. I am specifically focused on solutions which **reduce re-training** and/or **protect data privacy**. To work towards this goal, I look at problems such as: **lifelong/continual learning**, **knowledge distillation**, **federated learning**, and **low-label learning**.

EDUCATION **PhD in Machine Learning, Georgia Institute of Technology** (current)

Advisor: *Dr. Zsolt Kira*

Enrolled: August 2018 | Expected Graduation Date: December 2023

Master of Science in Electrical Engineering, Auburn University (May 2018)

Bachelor of Electrical Engineering, Auburn University (May 2017)

**SELECTED
PUBLICATIONS**

- [1] **James Smith** et al. "CODA-Prompt: COntinual Decomposed Attention-based Prompting for Rehearsal-Free Continual Learning", *arXiv preprint arXiv: 2211.13218*, 2022. [\[Paper\]](#)
- [2] **James Smith** et al. "ConStruct-VL: Data-Free Continual Structured VL Concepts Learning", *arXiv preprint arXiv: 2211.09790*, 2022. [\[Paper\]](#)
- [3] Paola Cascante-Bonilla, Leonid Karlinsky, **James Smith**, Yanjun Qi, Vicente Ordonez "On the Transferability of Visual Features in Generalized Zero-Shot Learning", *arXiv preprint arXiv: 2211.12494*, 2022. [\[Paper\]](#)
- [4] **James Smith***, Junjiao Tian*, Zsolt Kira. "FedFOR: Stateless Heterogeneous Federated Learning with First-Order Regularization", *arXiv preprint arXiv:2209.10537*, 2022. [\[Paper\]](#)
- [5] **James Smith**, Junjiao Tian, Yen-Chang Hsu, Zsolt Kira. "A Closer Look at Rehearsal-Free Continual Learning", *arXiv preprint arXiv:2203.17269*, 2022. [\[Paper\]](#)
- [6] Yen-Chang Hsu, **James Smith**, Yilin Shen, Zsolt Kira, Hongxia Jin. "A Closer Look at Knowledge Distillation with Features, Logits, and Gradients", *arXiv preprint arXiv:2203.10163*, 2022. [\[Paper\]](#)
- [7] Mayank Lunayach, **James Smith**, Zsolt Kira. "Lifelong Wandering: A realistic few-shot online continual learning setting", *CVPR Workshop on Continual Learning*, 2022. [\[Paper\]](#)
- [8] **James Smith**, Zachary Seymour, Han-Pang Chiu. "Incremental Learning with Differentiable Architecture and Forgetting Search", *International Joint Conference on Neural Networks (IJCNN)*, 2022. **(oral)** [\[Paper\]](#)
- [9] **James Smith**, Yen-Chang Hsu, Jonathan Balloch, Yilin Shen, Hongxia Jin, Zsolt Kira. "Always Be Dreaming: A New Approach for Data-Free Class-Incremental Learning", *International Conference on Computer Vision (ICCV)*, 2021. **(25.9% acceptance rate)** [\[Paper\]](#) [\[Code\]](#)
- [10] **James Smith**, Cameron Taylor, Seth Baer, Constantine Dovrolis. "Unsupervised Progressive Learning and the STAM Architecture", *International Joint Conference on Artificial Intelligence (IJCAI)*, 2021. **(13.9% acceptance rate)** [\[Paper\]](#) [\[Code\]](#)

*Equal Contribution

[11] **James Smith**, Yen-Chang Hsu, Jonathan Balloch, Zsolt Kira. "Memory-Efficient Semi-Supervised Continual Learning: The World is its Own Replay Buffer", *International Joint Conference on Neural Networks (IJCNN)*, 2021. **(oral)** [\[Paper\]](#) [\[Code\]](#)

[12] **James Smith**, Bo Wu, Bogdan Wilamowski. "Neural Network Training with Levenberg-Marquardt and Adaptable Weight Compression", *IEEE Transactions on Neural Networks and Learning Systems*, 30(2), 580-587, 2019. [\[Paper\]](#)

RELEVANT EXPERIENCE

Georgia Tech Atlanta, GA Since Aug
Graduate Research Assistant, College of Computing 2018

Samsung Research America Mountain View, CA Since Jan
Research Intern, PhD 2023

MIT-IBM Watson AI Lab Cambridge, MA May 2022 –
Research Intern, PhD Dec 2022

SRI International Princeton, NJ May 2021 –
Computer Vision Research Intern, PhD Aug 2021

Radiance Technologies Huntsville, AL May 2018 –
Machine Learning Intern Aug 2018

Auburn University Auburn, AL May 2017 –
Graduate Research Assistant, Department of Electrical and Computer Engineering May 2018

Naval Research Laboratories Washington, DC May 2015 –
Research Intern Aug 2015

HONORS & AWARDS

NSF Graduate Research Fellowship Program Honorable Mention 2018

Alton B. Zerby and Carl T. Koerner National Outstanding Electrical and Computer Engineering

Student Award, L.A. Alumni Chapter IEEE/HKN **(one of two nationwide recipients)** 2018

President's Award, Samuel Ginn College of Engineering **(single recipient)** 2017

ECE Outstanding Student of the Year, Auburn University **(single recipient)** 2017

SERVICE & LEADERSHIP

Leadership

Co-organizer of [Continual Causality Bridge Program](#) at AAAI 2023 2022-2023

Board Member of [ContinualAI](#) 2022

Co-host of [ContinualAI Weekly Seminar Series](#) 2022

Co-organizer of [Georgia Tech ML PhD Student Seminar Series](#) 2020-2022

Mentoring

Mayank Lunayach (MS) Jan 2021 – Present

Yash Jakhotiya (MS) Jan 2022 – Present

Aaditya Singh (MS) August 2022 – Present

Vyshnavi Gutta (MS) August 2022 – Present