

RESEARCH INTERESTS

I'm particularly interested in making the state-of-the-art in computer vision more efficient. My goal is to avoid common strategies such as pruning and quantization and instead search for orthogonal methods to increase efficiency—with the hope that these methods can all be used together for a multiplicative effect.



TECHNICAL EXPERIENCE

Languages	Python, C++, Java, JavaScript, Lua
Frameworks	PyTorch, TensorFlow, NumPy
Areas	Vision, Diffusion, Detection, Efficiency, Self Supervision
Skills	Pushing SotA, Training Large Models (e.g., 256 GPUs)

PUBLICATIONS

2023	<i>Ziplt! Merging Models from Different Tasks without Training</i>	Preprint
	George Stoica*, Daniel Bolya* , Jakob Bjorner, Taylor Hearn, Judy Hoffman	
2023	<i>Hiera: A Hierarchical Vision Transformer without the Bells-and-Whistles</i>	ORAL ICML 2023
	Chaitanya Ryali*, Yuan-Ting Hu*, Daniel Bolya* , Chen Wei, Haoqi Fan, Po-Yao Huang, Vaibhav Aggarwal, Arkabandhu Chowdhury, Omid Poursaeed, Judy Hoffman, Jitendra Malik, Yanghao Li*, Christoph Feichtenhofer*	
2023	<i>Token Merging for Fast Stable Diffusion</i>	ORAL CVPR 2023 ECV Workshop
	Daniel Bolya, Judy Hoffman	
2023	<i>Token Merging: Your ViT But Faster</i>	ORAL TOP 5% ICLR 2023
	Daniel Bolya, Cheng-Yang Fu, Xiaoliang Dai, Peizhao Zhang, Christoph Feichtenhofer, Judy Hoffman	
2022	<i>Hydra attention: Efficient attention with many heads</i>	BEST PAPER ECCV 2022 CADL Workshop
	Daniel Bolya, Cheng-Yang Fu, Xiaoliang Dai, Peizhao Zhang, Judy Hoffman	
2021	<i>Scalable diverse model selection for accessible transfer learning</i>	NeurIPS 2021
	Daniel Bolya*, Rohit Mittapalli*, Judy Hoffman	
2020	<i>TIDE: A General Toolbox for Identifying Object Detection Errors</i>	SPOTLIGHT ECCV 2020
	Daniel Bolya, Sean Foley, James Hays, Judy Hoffman	
2020	<i>Likelihood Landscapes: A Unifying Principle Behind Many Adversarial Defenses</i>	ECCV 2020 AROW Workshop
	Fu Lin, Rohit Mittapalli, Prithvijit Chattopadhyay, Daniel Bolya , Judy Hoffman	
2020	<i>YOLACT++: Better Real-time Instance Segmentation</i>	TPAMI 2020
	Daniel Bolya*, Chong Zhou*, Fanyi Xiao, Yong Jae Lee	
2019	<i>YOLACT: Real-time Instance Segmentation</i>	ORAL ICCV 2019
	Daniel Bolya, Chong Zhou, Fanyi Xiao, Yong Jae Lee	
2016	<i>Using Artificial Intelligence Systems for Autonomous Visual Comprehension and Handwriting Generation</i>	ISEF 2016
	Daniel Bolya*, Dylan McLeod*	

EDUCATION
















May 2024 (Projected)	Machine Learning	
August 2019	PH.D. · Georgia Institute of Technology 	
	Advised by Judy Hoffman.	
March 2019	Computer Science	
September 2016	B.S. · University of California Davis 	
	Math Minor. Research advised by Yong Jae Lee.	



AWARDS

2022	Best Paper Award (ECCV 2022 CADL Workshop)	<i>Hydra Attention: Efficient Attention with Many Heads</i>
2020	National Science Foundation Graduate Research Fellowship	
2020	Best Paper Runner-Up (ECCV 2020 AROW Workshop)	<i>Likelihood Landscapes: A Unifying Principle...</i>
2019	COCO Challenge Most Innovative Award	<i>YOLACT: Real-Time Instance Segmentation</i>
2019	Chancellor's Award for Excellence in Undergraduate Research Honorable Mention	<i>YOLACT: Real-Time Instance Segmentation</i>
2017	HackDavis Honorable Mention	<i>Proton: Positivity Generator</i>
2016	Intel International Science and Engineering Fair (ISEF) Finalist	<i>Handwritten Math Equation Solver</i>
2016	Sacramento STEM Fair 1st Place Category Award in Math and CS	<i>Handwritten Math Equation Solver</i>
2016	Sacramento STEM Fair 3rd Place Grand Prize Award	<i>Handwritten Math Equation Solver</i>
2016	California State Science Fair Honorable Mention	<i>Handwritten Math Equation Solver</i>

EMPLOYMENT

Ongoing August 2023	Graduate Research Assistant GEORGIA TECH · Atlanta, Georgia  Projected end date of May 2024. Advised by Judy Hoffman.	
August 2023 May 2020	NSF Graduate Research Fellow GEORGIA TECH · Atlanta, Georgia  Worked on PARC, ToMe for SD, and Ziplt! among others. Advised by Judy Hoffman.	
August 2023 May 2023	Research Scientist Intern (FAIR) META · San Francisco, California  Released Hiera and worked to further push the state-of-the-art with Hiera under Christoph Feichtenhofer.	
August 2022 May 2022	Research Scientist Intern (Meta AI) META · San Francisco, California  Worked on and released Hydra Attention and Token Merging under Cheng-Yang Fu.	
August 2021 May 2021	Research Scientist Intern (FAIR) META · Remote  Worked on grounded unsupervised part segmentation under Vignesh Ramanathan.	
May 2020 August 2019	Graduate Research Assistant GEORGIA TECH · Atlanta, Georgia  Developed, released, and supported TIDE. Advised by Judy Hoffman.	
August 2019 April 2019	Research Assistant UC DAVIS · Davis, California  Released and supported YOLACT, as well as prepared for YOLACT++. Advised by Yong Jae Lee.	
March 2019 June 2018	Undergraduate Student Researcher UC DAVIS · Davis, California  Developed YOLACT, the first real-time instance segmentation method. Advised by Yong Jae Lee.	