CURRICULUM VITAE

SARAH ADEL BARGAL

sbargal@bu.edu
http://cs-people.bu.edu/sbargal/

RESEARCH INSTERESTS	Computer Vision and Machine Learning.	
ACADEMIC APPOINTMENTS	**Assistant Professor**, Georgetown University	2022
	Research Assistant Professor, Computer Science, Boston University.	2019 - 2022
	Postdoctoral Associate, Computer Science, Boston University.	2018 - 2019
	Research Fellow, Computer Science, Boston University.	2013 - 2018
	Teaching Fellow, Computer Science, Boston University.	2013 - 2016
	Lecturer, Computer Science, Gulf University for Science and Technology.	2009 - 2013

EDUCATION		
	Ph.D., Computer Science, Boston University	2013 - 2019
	GPA: 4.00	
	Advisor: Prof. Stan Sclaroff	
	Thesis topic: Grounding Deep Models of Visual Data	
	M.Sc., Computer Science, The American University in Cairo	2005 - 2007
	GPA: 3.96 (First on Graduation Class)	
	Advisors: Prof. Amr Goneid, Dr. Rana el Kaliouby	
	Thesis topic: Automated Facial Expression Recognition	
	B.Sc., Computer Science, Kuwait University	2001 - 2005
	GPA: 3.92 (Distinction with Class Honors)	
	Minor: Statistics and Operations Research	

AWARDS, AND SCHOLARSHIPS		
	Provost's Distinguished Faculty Fellow, Georgetown University.	2022
	IBM Ph.D. Fellowship.	2017
	Outstanding Teaching Fellow Award, Boston University.	2017
	Hariri Graduate Fellowship, Boston University.	2017
	ACM SIGMM Student Conference Scholarship to attend: Turing Award Celebration.	2017
	Office of Technology Development Award, Boston University.	2016
	Emotion Recognition Challenge (third place), ICMI Conference.	2016
	Social Entrepreneurship Award, Boston University (BU).	2014
	Hariri Award for Transformative Computational Science Research, BU.	2014
	Yousef Jameel Scholarship, University of Cambridge. [Declined; multiple awards]	2013
	Merit Fellowship, The American University in Cairo.	2006 - 2007
	Laboratory Instruction Graduate Fellowship, The American University in Cairo.	2005 - 2006
	Dean's List Honors all years of undergraduate study, Kuwait University.	2001 - 2005

RECOGNITIONS		
	Distinguished Student Speaker, PhD Hooding Ceremony of Boston University.	2019
	Finalist, Adobe Research Fellowship.	2018
	Semi-Finalist, Snap Inc. Research Fellowship.	2018

TRAVEL AWARDS		
	Rising Stars 2017, Stanford University.	2017
	Grace Hopper Conference Student Scholarship.	2017
	Grace Hopper Conference Award, Boston University.	2016
	Invited participant for the Grad Cohort Workshop of the CRA-W.	2016

PUBLICATIONS

[1] S.A. Bargal, A. Zunino, V. Petsiuk, V. Murino, S. Sclaroff, K. Saenko. Beyond the Visual Analysis of Deep Model Saliency. *Book chapter, Springer Book: xxAI - Beyond Explainable Artificial Intelligence,* 2022. — 2022

[2] N. Ruiz, S. A. Bargal, C. Xie, K. Saenko, S. Sclaroff. Finding Differences Between Transformers and ConvNets Using Counterfactual Simulation Testing. In *Neural Information Processing Systems (NeurIPS),* 2022. — 2022

[3] N. Ruiz, A. Kortylewski, W. Qiu, C. Xie, S. A. Bargal, A. Yuille, S. Sclaroff. Simulated Adversarial Testing. *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022. — 2022

[4] D. Bashkirova, M. Abdelfattah, Z. Zhu, J. Akl, F. Alladkani, P. Hu, V. Ablavsky, B. Calli, S.A. Bargal, K. Saenko. Zero-Waste: Towards Automated Waste Recycling. *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022. — 2022

[5] M. Oliu, S. A. Bargal, X. Baró, S. Sclaroff, and S. Escalera. Multi-varied Cumulative Alignment for Domain Adaptation. *International Conference on Image Analysis and Processing (ICIAP),* 2022. — 2022

[6] N. Ruiz*,H. Yu*, D. A. Allessio, M. Jalal, A. Joshi, T. Murray, J. J. Magee, K. M. Delgado, V. Ablavsky, S. Sclaroff, I. Arroyo, B. P. Woolf , S. A. Bargal, M. Betke. ATL-BP: A Student Engagement Dataset and Model for Affect Transfer Learning for Behavior Prediction. *IEEE Transactions on Biometrics, Behavior, and Identity Science*, 2022. — 2022

[7] S. S. Majumdar, S. Jain, I. C. Tourni, A. Mustafin, Diala Lteif, S. Sclaroff, K. Saenko, S. A. Bargal. Ani-GIFs: A Benchmark Dataset for Domain Generalization of Action Recognition from GIFs. *Frontiers in Computer Science-Computer Vision*, 2022. — 2022

[8] S. A. Bargal*, A. Zunino*, V. Petsiuk, J. Zhang, K. Saenko, V. Murino, S. Sclaroff. Guided Zoom: Zooming into Network Evidence to Refine Fine-grained Model Decisions. *IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI),* 2021. — 2021

[9] A. Wan, L. Dunlap, D. Ho, J. Yin, S. Lee, H. Jin, S. Petryk, S. A. Bargal, J. E. Gonzalez. NBDT: Neural-Backed Decision Tree. *International Conference on Learning Representations (ICLR) ,* 2021. — 2021

[10] S. A. Bargal*, A. Zunino*, P. Morerio, J. Zhang, S. Sclaroff, V. Murino. Excitation Dropout: Encouraging Plasticity in Deep Neural Networks. *International Journal of Computer Vision (IJCV),* 2021. **Nominated for Misha Mahowald Prize.** — 2021

[11] S. A. Bargal*, A. Zunino*, R. Volpi, M. Sameki, J. Zhang, S. Sclaroff, V. Murino, K. Saenko. Explainable Deep Classification Models for Domain Generalization. *Workshop on Fair, Data-Efficient, and Trusted Computer Vision at IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021. — 2021

[12] N. Ruiz, S. A. Bargal, S. Sclaroff. Protecting Against Image Translation Deepfakes by Leaking Universal Perturbations from Black-Box Neural Networks. *Workshop on Security and Safety in Machine Learning Systems at International Conference on Learning Representations (ICLR) ,* 2021. — 2021

[13] B. Spetter-Goldstein, N. Ruiz, S. A. Bargal. Examining the Human Perceptibility of Black-Box Adversarial Attacks on Face Recognition. *Workshop on The Prospects and Perils of Adversarial Machine Learning at International Conference on Machine Learning (ICML),* 2021. — 2021

[14] K. Deglado, J. Origgi, T. Hasanpoor, H. Yu, D. Allessio, I. Arroyo, W. Lee, M. Betke, B. Woolf, S. A. Bargal. Prediction of Student Engagement. *Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV) Workshops,* 2021. — 2021

[15] M. Monfort, A. Andonian, B. Zhou, K. Ramakrishnan, S. A. Bargal, Y. Yan, L. Brown, Q. Fan, D. Gutfreund, C. Vondrick, A. Oliva. Moments in Time Dataset: one million videos for event understanding. *IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI),* 2020. — 2020

[16] N. Ruiz, S. A. Bargal, S. Sclaroff. Disrupting DeepFakes: Adversarial Attacks Against Conditional Image Translation Networks and Facial Manipulation Systems. *Workshop on Adversarial Machine Learning in Computer Vision at IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2020. — 2020

[17]	N. C. Garcia, S. A. Bargal, V. Ablavsky, P. Morerio, V. Murino, S. Sclaroff. DMCL: Distillation Multiple Choice Learning for Multimodal Action Recognition. *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2020.	2020
[18]	F. Cakir, K. He, S. A. Bargal, S. Sclaroff. Hashing with Mutual Information. *IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI)*, 2019.	2019
[19]	S. A. Bargal*, A. Zunino*, V. Petsiuk, J. Zhang, K. Saenko, V. Murino, S. Sclaroff. Guided Zoom: Questioning Network Evidence for Fine-grained Classification. *The British Machine Vision Conference (BMVC)*, 2019.	2019
[20]	D. Kim, S. A. Bargal, J. Zhang, S. Sclaroff. Multi-way Encoding for Robustness. *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2019.	2019
[21]	S. A. Bargal*, A. Zunino*, V. Petsiuk, J. Zhang, K. Saenko, V. Murino, S. Sclaroff. Are CNN Predictions based on Reasonable Evidence? *Workshop on Explainable Artificial Intelligence at IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019.	2019
[22]	S. A. Bargal*, A. Zunino*, D.Kim, J. Zhang, V. Murino, S. Sclaroff. Excitation Backprop for RNNs. *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2018. **Featured in CVPR Daily**.	2018
[23]	K. He, F. Cakir, S. A. Bargal, S. Sclaroff. Hashing as Tie-Aware Learning to Rank. IE*EE/CVF Conference* on *Computer Vision and Pattern Recognition (CVPR)*, 2018.	2018
[24]	J. Zhang, S. A. Bargal, Z. Lin, J. Brandt, X. Shen, S. Sclaroff. Top-down Neural Attention by Excitation Backprop. *International Journal of Computer Vision (IJCV)*, 2017.	2017
[25]	F. Cakir, K. He, S. A. Bargal, S. Sclaroff. MIHash: Online Hashing with Mutual Information. *International Conference on Computer Vision (ICCV)*, 2017.	2017
[26]	S. Ma, S. A. Bargal, J. Zhang, L. Sigal, S. Sclaroff. Do Less and Achieve More: Training CNNs for Action Recognition Utilizing Action Images from the Web. *The Journal of the Pattern Recognition Society (PR)*, 2017. **Office of Technology Development Award, Boston University**.	2017
[27]	S. A. Bargal, E. Barsoum, C. Canton, C. Zhang, Emotion Recognition in the Wild from Videos using Images. *International Conference on Multimodal Interaction (ICMI)*, 2016. **Third place: ICMI'16 Emotion Recognition Challenge.**	2016
[28]	F. Cakir, S. A. Bargal, S. Sclaroff. Online Supervised Hashing. *Computer Vision and Image Understanding Journal (CVIU)*, 2016.	2016
[29]	S. A. Bargal, A. Welles, C. R. Chan, S. Howes, S. Sclaroff, E. Ragan, C. Johnson, C. Gill. Image-based Ear Biometric Smartphone App for Patient Identification in Field Settings. *International Conference on Computer Vision Theory and Applications (VISAPP)*, 2015. **Social Entrepreneurship Award, Boston University.**	2015
[30]	S. A. Bargal, R. el Kaliouby, A. Goneid, A. Nayfah. Classification of Mouth Action Units using Local Binary Patterns. *International Conference on Image Processing, Computer Vision, and Pattern Recognition (IPCV)*, 2012.	2012

PAPERS UNDER REVIEW		
	[1] Q. Fan, D. Kim, R. Chen, S. Sclaroff, S. A. Bargal. Analysis of Temporal Dependenices in Video Action Models.	2022
	[2] Y. Song, H. Tillman, D. Lteif, A. Wan, D. Ho, S. A. Bargal, J. E. Gonzalez. GradPAM: Visual Explanations for Segmentation.	2022
	[3] T. Oanda, N. Ruiz, S. A. Bargal. UniFace Cross Domain Style Transfer.	2022
	[4] N. Ruiz, S. A. Bargal, S. Sclaroff. Efficient Black-Box Disruptions of Image Translation Deepfake Generation Systems.	2022

GRANTS		
	Co-PI (Boston University PI), ***NSF: Program on Fairness in Artificial Intelligence in Collaboration with Amazon (FAI)***, $976,673. Collaboration with University of California Santa Cruz and Johns Hopkins University. *Status: submitted.*	2021
	Co-PI (Boston University PI), ***NSF: Research on Emerging Technologies for Teaching and Learning (RETTL)***, $840,215. Collaboration with University of Massachusetts Amherst. *Status: submitted.*	2021
	Co-PI, ***Facebook's Foundational Integrity Research***, $99,990. *Status: submitted.*	2021

	PI, *nVIDIA Hardware Grant Program*, $11,399. *Status: submitted.*	2021
	Co-PI, Cloud Credits for Research from **Amazon Web Services**, with Vasili Ramanishka and Ben Usman, 01/23/2019 - 12/31/2019, $15,000. *Status: received.*	2019
	PI, *nVIDIA GPU Grant*, $3,000. *Status: received.*	2019
INDUSTRY EXPERIENCE	**IBM Research** - Vision and Learning Group, *Research Intern* Manager: Rogerio Feris Project: Deep learning for action recognition from video	2017
	Microsoft Research - Group MIX, *Research Intern* Manager: Cha Zhang Project: Deep learning for emotion recognition from video	2016
	MIS - Oracle partner, *Software Developer* Project: Automated forms and reports generation	2005
INVITED TALKS AND LECTURES	**Invited Speaker,** Museum of Science AI speaker "The Future of Intelligence" moderated by Kara Miller of the Boston Globe.	2022
	Invited Speaker, Department of Computer Science, Georgetown University.	2022
	Invited Keynote Speaker, CVPR workshop on: Fair, Data-Efficient and Trusted Computer Vision.	2021
	Guest Lecturer, EC 414 Machine Learning, College of Engineering, Boston University.	2021
	Invited Speaker, KAUST/Stanford.	2020
	Guest Lecturer, CS 585 Image and Video Computing Course, Boston University.	2020
	Invited Speaker, National Academy of Sciences, Arab-American Frontiers Symposium.	2019
	Invited Speaker, IEEE Applied Imagery Pattern Recognition (AIPR) workshop, D.C.	2019
	Invited Speaker, CSAIL, MIT.	2019
	Invited Speaker, Google, Cambridge MA.	2019
	Invited Speaker, Computational Science Workshop, Harvard University.	2019
	Invited Speaker, Law School, BU/MIT Technology Law Clinic, Boston University.	2019
	Invited Speaker, Geometric Analysis Approach to AI Workshop, Harvard University.	2019
	Invited Speaker, College of Information and Computer Science, UMass Amherst.	2019
	Invited Keynote Speaker, AI4ALL, Boston University.	2018
	Invited Speaker, New England Computer Vision Workshop, Harvard University.	2018
	Invited Speaker, Machine Intelligence Conference, MIT Media Lab.	2018
	Invited Speaker, Computer Science Department, Tufts University.	2018
	Invited to present our work on *Excitation Backprop for RNNs* at the CVPR 2018 Workshop: "Brave New Ideas for Video Understanding."	2018
	Guest Lecturer, CS 480/680 Computer Graphics Course, Boston University.	2018
	Guest Lecturer, CS 542 Machine Learning Course, Boston University.	2017
	Guest Lecturer, CS 591 Deep Learning Course, Boston University.	2017
	Guest Speaker, Computer Science Dept. of the American University in Cairo.	2017
	Invited Speaker, Affectiva, Boston, MA.	2015
PROFESSIONAL ACTIVITIES	**PhD Dissertation Prospectus Committee Member**. Nataniel Ruiz, *Using Adaptive Simulation to Train, Test and Understand Neural Networks,* Boston University.	2022
	PhD Oral Exam Committee Member. Dina Bashkirova, *Disentanglement in Unpaired Image-to-Image Translation,* Boston University.	2022
	Guest Editor, special issue of the Frontiers on Computer Vision Journal.	2021
	Third Reader of Doctoral Thesis Examining Committee. Xiao Zhou, *Non-competitive and Competitive Deep Learning for Imaging Applications,* Boston University.	2021
	PhD Dissertation Prospectus Committee Member. Donghyun Kim, *Learning Generalizable Representation with Self-supervised Learning,* Boston University.	2021
	PhD Oral Exam Committee Member. Vitali Petsiuk, *Saliency Methods for Explainable AI,* Boston University.	2021
	PhD Oral Exam Committee Member. Hao Yu, *Facial Expression Analysis for Predicting Student Engagement,* Boston University.	2021
	NSF Panelist, CISE.	2020
	Fourth Reader and Chair of Doctoral Thesis Examining Committee. Xingchao Peng,	2020

	Domain Adaptive Learning with Disentangled Features, Boston University.	
	Chair of Doctoral Thesis Examining Committee. Xide Xia, *Deep Representation Learning for Photorealistic Content Creation*, Boston University.	2020
	Area Chair, IEEE Winter Conference on Applications of Computer Vision (WACV).	2020
	Technical Program Committee Member, AffectiCom Workshop, IEEE International Conference on Communications (ICC).	2020
	Affiliate, Hariri Institute of Computing, Boston University.	2019 - 2022
	Core Faculty, Artificial Intelligence Research (AIR) Initiative, Boston University.	2019 - 2022
	Program Chair, Multi-modal Video Analysis and Moments in Time Challenge (MMVAMT) Workshop, ICCV.	2019
	Reviewer for CVPR, ICCV, ECCV, ICMI, AAAI, FG, TPAMI, AI Letters, TKDE, and CogSys.	2013 - 2022
	Consultant on Project SEARCH: Scanning Ears for Child Health, Boston University.	2017
	Student Representative on the Graduate Academic Affairs Committee, a Graduate School of Arts & Sciences Governance Committee at Boston University.	2015
	Seminar Series Coordinator, Image and Video Computing Group, Boston University.	2015
	Judging Committee Member of Gulf Programming Competition (GPC) in Abu Dhabi.	2012, 2013
OUTREACH AND SERVICE	**Co-Director**, AI4ALL Program, Boston University.	2019 - 2022
	Committee Chair, Computer Science Department's Graduate Awards Committee, Boston University.	2021-2022
	Committee Member, Research Faculty Merit Review Committee, Boston University.	2022
	Speaker, CS Research Workshop for Undergraduates and Masters, Boston University.	2021
	Panelist, Artemis Project, Boston University.	2021
	Committee Member, Computer Science Department's Professor of Practice Search Committee, Boston University.	2020-2021
	Committee Member, Computer Science Department's committee for external fellowship nomination of doctoral students, Boston University.	2020-2022
	Faculty Scholarship Application Reviewer, Grace Hopper Conference.	2020
	Computer Science Instructor, Boston University's Summer High School Program.	2019
	Committee Member, Computer Science Department's committee for teaching and research awards for doctoral students, Boston University.	2019
	GWISE Representative (Graduate Women in STEM), Boston University.	2018
	Panelist, Building your professional/scholarly profile, AI retreat, Boston University.	2018
	Panelist, uWise (Undergraduate Women in STEM), Boston University.	2017
MENTORING	**PhD Students** *at Boston University and UC Berkeley*[*] Alvin Wan[*] (with Joseph Gonzalez), Donghyun Kim (with Stan Sclaroff), Lisa Dunlap[*] (with Joseph Gonzalez), Nataniel Ruiz (with Stan Sclaroff), Vitali Petsiuk (with Kate Saenko), Isidora Tourni, Diala Lteif, and Arsenii Mustafin.	2017 - 2022
	MSc Students *at Boston University* Chenwei Cui, Juan Origgi, Tania Hasanpoor, Shubhangi Jain, and Shoumik Majumdar.	2019 - 2022
	Undergraduate Students *at Boston University and The American University in Cairo*[+] Benji Spetter-Goldstein, Kevin Delgado, Tabitha Oanda (2022 Scarlet Key Honor), and Mohamed Abdelfattah[+].	2019 - 2022
TEACHING	**Boston University, Department of Computer Science** CS 523 Deep Learning (38 students) CS 542 Machine Learning (120 students) CS 440 Artificial Intelligence (90 students) CS 995 Directed Study: Computer Vision (6 students) CS 112 Intro to Computer Science II (Data Structures and Algorithms) (35 students) CS 480/680 Intro to Computer Graphics (60 students) ***Outstanding Teaching Fellow Award***	2016 - 2022