

Prithvijit Chattopadhyay

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RESEARCH AREAS	Out-of-Distribution Generalization, Self-supervised Adaptation, Embodied RL, Robust Machine Learning, Reinforcement Learning	
EDUCATION	School of Interactive Computing, Georgia Tech <i>Ph.D. in Computer Science</i> Advised by Prof. Judy Hoffman	2019 - Present
	College of Computing, Georgia Tech <i>M.S. in Computer Science</i> Advised by Prof. Devi Parikh Thesis: Evaluating Visual Conversational Agents via Cooperative Human-AI Games Awarded M.S. Research Award	2017 - 2019
	Delhi Technological University (Formerly DCE) <i>B.Tech. in Electrical Engineering</i>	2012 - 2016
AWARDS & RECOGNITION	Outstanding reviewer for CVPR 2021 Among top 33% reviewers for ICML 2020 NVIDIA Best Runner Up Paper Award at AROW, ECCV 2020 Recipient: CS-7001 Research Award (2020) - Interactive Computing, Georgia Tech Invited to mentor students at the “New in ML” workshop at NeurIPS 2019 Recognized as one of the highest-scoring reviewers for NeurIPS 2019 Outstanding Reviewer for ICLR 2019 Recipient: IC Student Travel Grant to attend NeurIPS 2018 Among top 30% reviewers for NeurIPS 2018 Recipient: MS Research Award (2018) - College of Computing, Georgia Tech Winner: VT-Hacks, 2017, a Major League Hacking event. Semi-Finalists: ROBOSUB - AUVSI, 2013 out of 30 participating teams Finalists: NIOT SAVE, 2013 out of 27 participating teams Recipient: Merit Scholarships for Undergraduate Academic Performance (2012-2014) Recipient: KVPY and INSPIRE Fellowships, 2012 National Top 1%: Indian National Physics Olympiad (InPhO), 2013	
PUBLICATIONS & PRE-PRINTS (*denotes equal contribution)	RobustNav: Towards Benchmarking Robustness in Embodied Navigation <i>International Conference on Computer Vision (ICCV) 2021 (Oral)</i> <i>Embodied AI Workshop, CVPR 2021</i> <u>P. Chattopadhyay</u> , J. Hoffman, R. Mottaghi, A. Kembhavi	
	Likelihood Landscapes: A Unifying Principle Behind Many Adversarial Defenses <i>Adversarial Robustness in the Real World (AROW), ECCV 2020 (Talk)</i> NVIDIA Best Paper Runner Up F. Lin, R. Mittapali, <u>P. Chattopadhyay</u> , D. Bolya, J. Hoffman	
	Learning to Balance Specificity and Invariance for In and Out of Domain Generalization <i>European Conference on Computer Vision (ECCV) 2020 (Poster)</i> <i>Visual Learning with Limited Labels (LwLL), CVPR 2020 (Poster)</i> <u>P. Chattopadhyay</u> , Y. Balaji, J. Hoffman	
	IR-VIC: Unsupervised Discovery of Sub-goals for Transfer in RL <i>International Joint Conference on Artificial Intelligence (IJCAI) 2020 (Poster)</i> N. Modhe, <u>P. Chattopadhyay</u> , M. Sharma, A. Das, D. Parikh, D. Batra, R. Vedantam	

DS-VIC: Unsupervised Discovery of Decision States for Transfer in RL
Task-Agnostic Reinforcement Learning (TARL) Workshop, ICLR 2019 (Poster)
N. Modhe, P. Chattopadhyay, M. Sharma, A. Das, D. Parikh, D. Batra, R. Vedantam

Improving Generative Visual Dialog by Answering Diverse Questions
Conference on Empirical Methods in Natural Language Processing (EMNLP) 2019 (Poster)
V. Murahari, P. Chattopadhyay, D. Batra, D. Parikh, A. Das

EvalAI: Towards Better Evaluation Systems for AI Agents
arXiv 2019 (Technical Report)
Workshop on AI Systems, SOSP 2019 (Poster)
D. Yadav, R. Jain, H. Agrawal, P. Chattopadhyay, T. Singh, A. Jain, S. Singh,
S. Lee, D. Batra

Choose Your Neuron: Incorporating Domain Knowledge Through Neuron-Importance
European Conference on Computer Vision (ECCV) 2018 (Poster)
Continual Learning Workshop, NeurIPS 2018 (Poster)
Visually Grounded Interaction and Language (ViGIL), NeurIPS 2018 (Poster)
R. Selvaraju*, P. Chattopadhyay*, M. Elhoseiny, T. Sharma, D. Batra, D. Parikh, S. Lee

Do Explanations make VQA models more predictable to a human?
Conference on Empirical Methods in Natural Language Processing (EMNLP) 2018 (Poster)
A. Chandrasekaran*, V. Prabhu*, D. Yadav*, P. Chattopadhyay*, D. Parikh

Evaluating Visual Conversational Agents via Cooperative Human-AI Games
AAAI Conference on Human Computation and Crowdsourcing (HCOMP) 2017 (Oral)
P. Chattopadhyay*, D. Yadav*, V. Prabhu, A. Chandrasekaran, A. Das, S. Lee,
D. Batra, D. Parikh

It Takes Two to Tango: Towards Theory of AI's Mind
Chalearn Looking at People Workshop, CVPR 2017 (Oral)
A. Chandrasekaran*, D. Yadav*, P. Chattopadhyay*, V. Prabhu*, D. Parikh

Counting Everyday Objects in Everyday Scenes
IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2017 (Spotlight)
P. Chattopadhyay*, R. Vedantam*, R. Selvaraju, D. Batra, D. Parikh

Delhi Technological University: Design and Development of the Littoral AUV
Zyra 2.0
AUVSI RoboSub Journal 2014 (Technical Report)

EXPERIENCE

PRIOR, Allen Institute of AI May 2020 - Aug 2020
Research Intern, mentored by Ani Kembhavi, Roozbeh Mottaghi and Judy Hoffman
Assessing the robustness of embodied navigation agents to visual and dynamics corruptions

Deep Learning Group, Microsoft Research AI May 2018 - Aug 2018
Research Intern, mentored by Hamid Palangi
Improving goal-driven visually grounded dialog under the presence of an adversarial utterance evaluator

Visual Intelligence Lab, Georgia Tech Aug 2017 - Aug 2019
Research Assistant, mentored by Prof. Devi Parikh and Prof. Dhruv Batra
Worked on problems at the intersection of computer vision and natural language processing with a focus towards building intelligent and interpretable systems.

CVMLP Lab, Virginia Tech Jun 2015 - May 2017
Research Assistant, mentored by Prof. Devi Parikh and Prof. Dhruv Batra
Worked on scene-understanding problems such as object detection and counting in everyday scenes with a downstream focus towards visual question answering

Robotics Research Lab, IIIT Hyderabad Dec 2014 - Jan 2015
Research Intern, mentored by Prof. K Madhava Krishna
 Implemented an efficient strategy for a robot to discover, recognize and navigate to a selected few objects among some scattered in an environment, based on a “guess from far and recognize from near” strategy.

IACS, Kolkata Jun 2014 - Aug 2014
Research Intern, mentored by Prof. Soumitra Sengupta
 Worked on finding Charged Rotating Black Hole solutions in Einstein-Gauss-Bonnet dilaton coupled gravity and simulated the conditions for the existence of multiple horizons in constant scalar curvature $f(R)$ gravity.

Autonomous Underwater Vehicle Team, DTU Aug 2012 - Aug 2016
Undergraduate Researcher, mentored by Prof. R K Sinha
Underwater Acoustics: Developed and implemented range estimation algorithms for Passive Source Localization from Time Difference of Arrival (TDOA) values in conjunction with machine vision techniques.

PROFESSIONAL SERVICES

Reviewing
 IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2018 - 2022
 Neural Information Processing Systems (NeurIPS) 2018 - 2021
 Association for Computational Linguistics (ACL) 2019
 International Conference on Learning Representations (ICLR) 2019 - 2022
 IEEE International Conference on Robotics and Automation (ICRA) 2021 - 2022
 International Conference on Machine Learning (ICML) 2019 - 2020
 European Conference on Computer Vision (ECCV) 2018
Challenge Organization
 Visual Dialog Challenge CVPR 2020
 (co-organized with Vishvak Murahari)

TEACHING EXPERIENCE

Teaching Assistant
 CS 4476: Introduction to Computer Vision Spring 2021
Instructor: Prof. Judy Hoffman

RELEVANT COURSEWORK

Graduate Coursework
 • Deep Learning • Machine Learning • Machine Learning Theory
 • Probabilistic Graphical Models in Machine Learning
 • Computability and Algorithms • Information Visualization
 • Adaptive Control and Reinforcement Learning
 • High-Dimensional Data Analysis
Selected Undergraduate Coursework
 • Control Systems • Pattern Recognition • Advanced Analog Circuit Design
 • Network Analysis and Circuit Theory • Microprocessors • Digital Electronics
 • Electromagnetic Field Theory

REFERENCES (available upon request)

- Prof. Judy Hoffman, Georgia Tech (email: judy@gatech.edu)
- Dr. Ani Kembhavi, PRIOR AllenAI (email: anik@allenai.org)
- Dr. Roozbeh Mottaghi, PRIOR AllenAI (email: roozbehm@allenai.org)
- Prof. Devi Parikh, Georgia Tech (email: parikh@gatech.edu)
- Prof. Dhruv Batra, Georgia Tech (email: dbatra@gatech.edu)
- Prof. Mohamed H. Elhoseiny, KAUST (email: mohamed.elhoseiny@kaust.edu.sa)
- Dr. Hamid Palangi, MSR AI (email: hpalangi@microsoft.com)
- Prof. Stefan Lee, Oregon State University (email: steflee@gatech.edu)