# Deepak Pathak

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| CONTACT INFORMATION | Carnegie Mellon University<br>Robotics Institute<br>Pittsburgh, PA | E-mail: dpathak@cs.cmu.edu<br>Website: https://www.cs.cmu.edu/~dpathak/<br>Google Scholar |

**EDUCATION**

**University of California, Berkeley**  Aug 2014 – Aug 2019
*PhD Candidate in Computer Science*
Advised by Prof. Alexei A. Efros and Prof. Trevor Darrell
CGPA : 4.0/4.0

**Indian Institute of Technology, Kanpur**  Aug 2010 – June 2014
*BTech. in Computer Science and Engineering*
Gold Medal in Computer Science
CGPA : 9.9/10

**APPOINTMENTS**

**Carnegie Mellon University** Pittsburgh, PA  Sept 2020 – Present
*Assistant Professor*

**Facebook AI Research** Menlo Park, CA  Sept 2019 – Aug 2020
*Researcher*

**University of California, Berkeley** Berkeley, CA  Sept 2019 – Aug 2020
*Visiting Researcher with Prof. Pieter Abbeel*

**Facebook AI Research** Pittsburgh, PA  May 2018 – Jan 2019
*Research Intern*

**Facebook AI Research** Seattle, WA  May 2016 – Nov 2016
*Research Intern*

**Microsoft Research** New York City, NY  May 2013 – Aug 2013
*Research Intern*

**Indian Institute of Technology, Kanpur** Kanpur, India  Aug 2013 – May 2014
*Undergraduate Researcher*

**INDUSTRY EXPERIENCE**

**Co-Founder of VisageMap Inc.**  Founded 2014
*Later acquired by FaceFirst Inc., Los Angeles, CA*
VisageMap (now, FaceFirst) offers person identification solution that outperform alternative identification methods, including fingerprints, iris scans, and other biometric recognition systems.

**HONORS AND AWARDS**

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| **Okawa Research Award** | 2022 |
| **Young Alumnus Award** from IIT Kanpur | 2022 |
| **Best Paper Award** at CVPR'22 Multimodal Learning Workshop | 2022 |
| **Best Paper Award Finalist** at RSS'22 Scaling Robot Learning Workshop | 2022 |
| Selected as **DARPA Riser** | 2022 |
| **Samsung GRO Award** | 2021-22 |
| **Best Paper Award Finalist in Cognitive Robotics** at ICRA'21 | 2021 |
| **Sony Research Award** | 2020-21 |
| **GoodAI Research Award** | 2020-21 |
| **Google Faculty Research Award** | 2019-20 |
| Winner of **Virtual Creatures Competition at GECCO'19** | 2019 |

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| | **Facebook Graduate Fellowship** | 2018-20 |
| | **Snapchat Research Fellowship** | 2018 |
| | **Nvidia Graduate Fellowship** | 2017-18 |
| | **ICCV Outstanding Reviewer Award** | 2017 |
| | **Gold Medal** for the highest academic performance in the department. | 2014 |
| | **Best Undergraduate Thesis Award**, IIT Kanpur. | 2014 |
| | **TCS Best Software Award** in the graduating year. | 2014 |
| | **Binay Kumar Sinha Award** for best industrially applicable thesis in the graduating year. | 2014 |
| | **Academic Excellence Award**, IIT Kanpur. | 2011-14 |
| | **CBSE Merit Scholarship** for undergraduate studies. | 2010-14 |

SERVICE AND
LEADERSHIP

**Area Chair** <span style="float:right">2020 - Present</span>
*ECCV 2022, NeurIPS 2022/2021/2020, ICLR 2022/2021, CVPR 2021, ICML 2021, ICCV 2021*

**Session Chair** <span style="float:right">2020 - Present</span>
*NeurIPS 2020/2021, ICRA 2021, ICML 2021*

**CoRL Workshop Co-organizer** <span style="float:right">Dec 2022</span>
*Sim-to-Real Robot Learning: Locomotion and Beyond*

**CogSci Workshop Co-organizer** <span style="float:right">July 2020</span>
*The Origins of Commonsense in Humans and Machines*

**CVPR Workshop Co-organizer** <span style="float:right">June 2019</span>
*Computer Vision After 5 Years*

**ICLR Workshop Co-organizer** <span style="float:right">May 2019</span>
*Task Agnostic Reinforcement Learning*

**ECCV Workshop Co-organizer** <span style="float:right">Sept 2018</span>
*11th POCV Workshop: Action, Perception and Organization*

**Reviewer** <span style="float:right">2015-19</span>
*CVPR, NeurIPS, ICML, ICLR, CoRL, ECCV, ICCV, AAAI, IJCV, TPAMI, JMLR, RA-L/IROS*

**Member**: CMU RI M.S. Admission Committee <span style="float:right">2022</span>

**Guest Lecture**: 6th Summer School on Artificial Intelligence, IIT Hyderabad <span style="float:right">2022</span>

**Guest Lecture**: CMU AI4ALL Program <span style="float:right">2021</span>

**Guest Lecture**: AI for Social Good Symposium, Amrita University <span style="float:right">2021</span>

**Guest Lecture**: Faculty Development Program, Amity University <span style="float:right">2021</span>

**Member**: UC Berkeley Ph.D. Admission Committee <span style="float:right">2015, 2018</span>

**BAIR Undergraduate Mentor** <span style="float:right">2018</span>

MEDIA
COVERAGE

**Legged Locomotion in Challenging Terrains using Egocentric Vision** <span style="float:right">Fall 2022</span>
*MIT Tech Review, TechCrunch, IEEE Spectrum, Cosmos, Technology, Popular Science*

**Deep Whole-Body Control: Unified Policy for Manipulation & Locomotion** <span style="float:right">Fall 2022</span>
*New Scientist, Popular Science*

**Human-to-Robot Imitation in the Wild** <span style="float:right">Summer 2022</span>
*Vox, TechCrunch, Voice of America, ASME, TechXplore, La Presse, 01Net French*

**Robotic Telekinesis: Learning by Watching Humans on Youtube** <span style="float:right">Spring 2022</span>
*TechXplore, The Voice of America, Weights & Biases, Two Minute Papers*

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| | **RMA: Rapid Motor Adaptation for Legged Robots** | Summer 2021 |

**RMA: Rapid Motor Adaptation for Legged Robots** — Summer 2021
*Washington Post, CBS TV, The Wall Street Journal, TechCrunch, Forbes, CNET,*
*TechXplore, L'ADN (France), Digitech News (Italy), CNBeta (China),*
*Observador (Portugal), Beratakini (Malaysia), 3DNews (Russia),*
*15Min (Lithuania), GeekTime (Israel)*

**Auto-Tuned Sim-to-Real Transfer** — Spring 2021
*Synced Review*

**Planning to Explore via Self-Supervised World Models** — Fall 2020
*VentureBeat, Synced Review*

**Large-Scale Curiosity-driven Learning** — Fall 2018
*The Economist, The Verge, Quartz, Two Minute Papers*

**Investigating Human Priors for Playing Video Games** — Spring 2018
*MIT Tech Review, Hitech News Daily, Two Minute Papers*

**Curiosity-driven Exploration using Self-Supervised Prediction** — Summer 2017
*The Wall Street Journal, MIT Tech Review, New Scientist, Quanta Magazine,*
*Wired, Engadget, NYPost, California Magazine, Digital Trends, Caixin,*
*Publico, India Times, Two Minute Papers*

**A Comparison of Forecasting Methods: Predicting Oscar Awards** — Spring 2015
*Daily Mail, Business Insider, Engadget, Huffington Post*

INVITED TALKS

**"A Bottom Up Approach to Robot Learning"**
NeurIPS 2022: Workshop on Foundation Models in Decision Making, — Dec 2022

**"Keynote Talk and Fireside Chat"**
Conference on Cognitive Computational Neuroscience (CCN), — Aug 2022

**"Robotic Generalization In The Wild Through Vision"**
Google Brain Vision Reading Group — July 2022

**"Open-World Vision for Robot Learning in the Wild"**
CVPR 2022: Invited talk at Open World Vision Workshop — June 2022

**"Generalizable Policy Learning in the Physical World"**
ICLR 2022: Panel Discussion at Workshop — April 2022

**"Generalization for Robot Learning In The Wild"**
Covariant AI — May 2022
Toyota Research Institute — April 2022
Allen Institute for AI (AI2) — April 2022

**"Planning to Explore via World Models"**
Dagstuhl Seminar on Recent Advancements in Tractable Probabilistic Inference — April 2022

**"Continually Improving Robots: Unsupervised Exploration and Rapid Adaptation"**
Speaker, Intrinsically Motivated Open-ended Learning (IMOL) — April 2022

**"Generalization for Robot Learning In The Wild"**
UC Berkeley — Feb 2022

**"Learning to Walk via Rapid Motor Adaptation"**
Re-Work Deep Learning Summit, San Francisco — Feb 2022

**"Robots that Learn to Generalize via Rapid and Continual Adaptation"**
Distinguished Talk Series, South Korea — Dec 2021

**"Robots that Rapidly Adapt to Diverse Tasks and Environments"**
NAVER Labs Seminar Series — Sept 2021
UCL: Centre for Artificial Intelligence — Aug 2021

UBC: CAIDA Seminar Series                                         July 2021

**"Rapid Adaptation in Robot Learning"**
CMU: VASC Seminar                                                 Sept 2021
MIT CSAIL: Embodied Intelligence Seminar                         July 2021

**"Unifying Perception and Control through Video"**
CVPR 2021: Invited talk at Unlabeled Video Workshop              June 2021

**"Learning to Generalize beyond Training"**
Microsoft Research, New York City                                Apr 2021

**"Robots that Learn to Generalize Beyond Training"**
MonREAL/MILA Robot Learning Seminar                              Mar 2021

**"Ontogeny and Phylogeny of Embodied Robots"**
EPFL Neuro Symp: Surprise, Curiosity, Reward                     Feb 2021
RTG Computational Cognition: DeepRL Workshop                     Jan 2021

**"Learning to Generalize beyond Training"**
CMU Robotics Institute Seminar                                   Nov 2020

**"Compositional Control: Intelligence without a brain"**
GoodAI Workshop on Meta-Learning & Multi-Agent Learning         Aug 2020

**"Self-Supervision & Modularity: Cornerstones for Generalization in Embodied Agents"**
ECCV 2020: Invited talk at Workshop on Self-Supervised Learning Aug 2020

**"Intelligence without a brain"**
CogSci 2020: Invited talk at Workshop on the Origins of Commonsense   July 2020

**"Curious and Compositional Robots"**
Invited talk at Stanford                                         July 2020

**"What does pretraining mean for robots?"**
CVPR 2020: Invited talk at Embodied-AI Workshop                  June 2020

**"Generalization via Self-Directed Learning"**
CMU                                                              Mar 2019
MIT EECS                                                         Mar 2019
MIT BCS                                                          Mar 2019
USC                                                              Feb 2019
UC Berkeley AI Seminar                                           Feb 2019
Google Brain                                                     May 2019
Facebook AI Research                                             June 2019
Nvidia Research                                                  July 2019
Meetup on State of AI and ML by ValleyML.ai                      Aug 2019

**"Curiosity-driven Exploration in Artificial Agents and Robots"**
Workshop on Curiosity, Explanation, & Exploration at Princeton University   June 2019

**"Self-Supervised Exploration via Disagreement"**
International Conference on Machine Learning (ICML)              June 2019

**"Large Scale Study of Curiosity-Driven Learning"**
NeurIPS 2018: Deep Reinforcement Learning Workshop              Dec 2018

**"Building Generalizable Agents via Curiosity and Self-supervision"**
GRASP Seminar: University of Pennsylvania                        Sept 2018
Microsoft Research, NYC                                          Sept 2018
VASC Seminar: Robotics Institute, CMU                            May 2018

**"Learning Instance Segmentation by Interaction"**

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|---|---|
| Deep Robotics Vision Workshop (CVPR) | June 2018 |

**"Zero-Shot Visual Imitation"**

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|---|---|
| International Conference on Representation Learning (ICLR) | Apr 2018 |

**"Lifelong Learning via Curiosity and Self-supervision"**

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| Vision Seminar: CSAIL, MIT | Mar 2018 |
| Research Meeting: Google Brain | Mar 2018 |
| Invited Talk: Redwood Center for Theoretical Neuroscience, Berkeley | Sept 2017 |
| Invited Seminar Talk: IIT Kanpur | Jan 2018 |
| Invited talk: Uber AI Labs | Sept 2017 |

**"Learning to Perceive and Act via Self-supervision"**

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| Invited talk: Frontiers of Video Technology Workshop, Adobe | July 2017 |

**"Learning Features by Watching Objects Move"**

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| CVPR 2017: Large-Scale Video Understanding Workshop | June 2017 |

**"Curiosity-driven Exploration using Self-Supervised Prediction"**

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|---|---|
| International Conference on Machine Learning (ICML) | May 2017 |
| Invited talk: OpenAI, San Francisco | June 2017 |

**"Exploring Four Axes of Self-Supervision"**

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|---|---|
| Talk at Berkeley AI Research Seminar | Apr 2017 |

**"Unsupervised Learning of Visual Representations"**

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|---|---|
| Mysore Park Workshop on Vision, Language and AI | Dec 2016 |

PEER REVIEWED PUBLICATIONS

[1] **Legged Locomotion in Challenging Terrains using Egocentric Vision**
*Conference on Robot Learning (CoRL) 2022* (**Oral**)
Ananye Agarwal*, Ashish Kumar*, Jitendra Malik, ***Deepak Pathak***

[2] **Deep Whole-Body Control: Learning a Unified Policy for Manipulation and Locomotion**
*Conference on Robot Learning (CoRL) 2022* (**Oral**)
Zipeng Fu*, Xuxin Cheng*, ***Deepak Pathak***

[3] **VideoDex: Learning Dexterity from Internet Videos**
*Conference on Robot Learning (CoRL) 2022*
Kenneth Shaw*, Shikhar Bahl*, ***Deepak Pathak***

[4] **HERD: Continuous Human-to-Robot Evolution for Learning from Human Demonstration**
*Conference on Robot Learning (CoRL) 2022*
Xingyu Liu, ***Deepak Pathak***, Kris M. Kitani

[5] **Understanding Collapse in Non-Contrastive Siamese Representation Learning**
*European Conference on Computer Vision (ECCV) 2022*
Alexander Cong Li, Alexei A. Efros, ***Deepak Pathak***

[6] **Adapting Rapid Motor Adaptation for Bipedal Robots**
*International Conference on Intelligent Robots and Systems (IROS) 2022*
Ashish Kumar, Zhongyu Li, Jun Zeng, ***Deepak Pathak***, Koushil Sreenath, Jitendra Malik

[7] **Human-to-Robot Imitation in the Wild**
*Robotics: Science and Systems (RSS) 2022*
Shikhar Bahl, Abhinav Gupta, ***Deepak Pathak***

[8] **Robotic Telekinesis: Learning a Robotic Hand Imitator by Watching Humans on Youtube**
*Robotics: Science and Systems (RSS) 2022*
**Best Paper Award Finalist in Scaling Robot Learning Workshop**
Aravind Sivakumar, Kenneth Shaw, ***Deepak Pathak***

[9] **Topologically-Aware Deformation Fields for Single-View 3D Reconstruction**
*Computer Vision and Pattern Recognition (CVPR) 2022*
Shivam Duggal, ***Deepak Pathak***

[10] **Coupling Vision and Proprioception for Navigation of Legged Robots**
*Computer Vision and Pattern Recognition (CVPR) 2022*
**Best Paper Award in Multimodal Learning Workshop**
Zipeng Fu*, Ashish Kumar*, Ananye Agarwal, Haozhi Qi, Jitendra Malik, ***Deepak Pathak***

[11] **Language Models as Zero-Shot Planners: Extracting Actionable Knowledge for Embodied Agents**
*International Conference on Machine Learning (ICML) 2022*
Wenlong Huang, Pieter Abbeel, ***Deepak Pathak***, Igor Mordatch*

[12] **REvolveR: Continuous Evolutionary Models for Robot-to-Robot Policy Transfer**
*International Conference on Machine Learning (ICML) 2022* (**Long Oral**)
Xingyu Liu, ***Deepak Pathak***, Kris M. Kitani

[13] **Zero-Shot Reward Specification via Grounded Natural Language**
*International Conference on Machine Learning (ICML) 2022*
Parsa Mahmoudieh, ***Deepak Pathak***, Trevor Darrell

[14] **Discovering and Achieving Goals via World Models**
*Neural Information Processing Systems (NeurIPS) 2021*
Russell Mendonca*, Oleh Rybkin*, Kostas Daniilidis, Danijar Hafner, ***Deepak Pathak***

[15] **Functional Regularization for Reinforcement Learning via Learned Fourier Features**
*Neural Information Processing Systems (NeurIPS) 2021*
Alexander C. Li, ***Deepak Pathak***

[16] **Interesting Object, Curious Agent: Learning Task-Agnostic Exploration**
*Neural Information Processing Systems (NeurIPS) 2021* (**Oral**)
Simone Parisi, Victoria Dean, ***Deepak Pathak***, Abhinav Gupta

[17] **Accelerating Robotic Reinforcement Learning via Parameterized Action Primitives**
*Neural Information Processing Systems (NeurIPS) 2021*
Murtaza Dalal, ***Deepak Pathak***, Ruslan Salakhutdinov*

[18] **The CLEAR Benchmark: Continual LEArning on Real-World Imagery**
*Neural Information Processing Systems Datasets and Benchmark Track (NeurIPS) 2021*
Zhiqiu Lin, Jia Shi, ***Deepak Pathak***, Deva Ramanan

[19] **RB2: Robotic Manipulation Benchmarking with a Twist**
*Neural Information Processing Systems Datasets and Benchmark Track (NeurIPS) 2021*
Sudeep Dasari, et.al.

[20] **Minimizing Energy Consumption Leads to the Emergence of Gaits in Legged Robots**
*Conference on Robot Learning (CoRL) 2021*
Zipeng Fu, Ashish Kumar, Jitendra Malik, ***Deepak Pathak***

[21] **Worldsheet: Wrapping the World in a 3D Sheet for View Synthesis from a Single Image**
*International Conference on Computer Vision (ICCV) 2021* (**Oral**)
Ronghang Hu, Nikhila Ravi, Alex Berg, ***Deepak Pathak***

[22] **Hierarchical Neural Dynamic Policies**
*Robotics: Science and Systems (RSS) 2021*
Shikhar Bahl, Abhinav Gupta, ***Deepak Pathak***

[23] **RMA: Rapid Motor Adaptation for Legged Robots**
*Robotics: Science and Systems (RSS) 2021*
Ashish Kumar, Zipeng Fu, ***Deepak Pathak***, Jitendra Malik

[24] **Unsupervised Learning of Visual 3D Keypoints for Control**
*International Conference on Machine Learning (ICML) 2021*
Boyuan Chen, Pieter Abbeel, ***Deepak Pathak***

[25] **Differentiable Spatial Planning using Transformers**
*International Conference on Machine Learning (ICML) 2021*
Devendra Chaplot, ***Deepak Pathak***, Jitendra Malik

[26] **FLAVR: Flow-Agnostic Video Representations for Fast Frame Interpolation**
*Winter Conference on Applications of Computer Vision (WACV) 2023* (arXiv 2021)
Tarun Kalluri, ***Deepak Pathak***, Manmohan Chandraker, Du Tran

[27] **Auto-Tuned Sim-to-Real Transfer**
*International Conference on Robotics and Automation (ICRA) 2021*
**(Best Cognitive Robotics Paper Award Finalist)**
Yuqing Du, Olivia Watkins, Trevor Darrell, Pieter Abbeel, ***Deepak Pathak***

[28] **Planning in Learned Latent Action Spaces for Generalizable Legged Locomotion**
*IEEE Robotics and Automation Letters (RA-L) 2021*
Tianyu Li, Roberto Calandra, ***Deepak Pathak***, Yuandong Tian, Franziska Meier, Akshara Rai

[29] **Learning Long-term Visual Dynamics with Region Proposal Interaction Networks**
*International Conference on Representation Learning (ICLR) 2021*
Haozhi Qi, Xiaolong Wang, ***Deepak Pathak***, Yi Ma, Jitendra Malik

[30] **Neural Dynamic Policies for End-to-End Sensorimotor Learning**
*Neural Information Processing Systems (NeurIPS) 2020* **(Spotlight)**
Shikhar Bahl, Mustafa Mukadam, Abhinav Gupta, ***Deepak Pathak***

[31] **Sparse Graphical Memory for Robust Planning**
*Neural Information Processing Systems (NeurIPS) 2020*
Michael Laskin, Scott Emmons, Ajay Jain, Thanard Kurutach, Pieter Abbeel, ***Deepak Pathak***

[32] **One Policy to Control Them All:**
**Shared Modular Policies for Agent-Agnostic Control**
*International Conference on Machine Learning (ICML) 2020*
Wenlong Huang, Igor Mordatch, ***Deepak Pathak***

[33] **Planning to Explore via Self-Supervised World Models**
*International Conference on Machine Learning (ICML) 2020*
Ramanan Sekar, Oleh Rybkin, Kostas Daniilidis, Pieter Abbeel, Danijar Hafner, ***Deepak Pathak***

[34] **Locally Masked Convolution for Autoregressive Models**
*Uncertainty in Artificial Intelligence (UAI) 2020*
Ajay Jain, Pieter Abbeel, ***Deepak Pathak***

[35] **Compositional GAN: Learning Conditional Image Composition**
*International Journal of Computer Vision (IJCV) 2020*
Samaneh Azadi, ***Deepak Pathak***, Sayna Ebrahimi, Trevor Darrell

[36] **Learning to Control Self-assembling Morphologies: A Study of**
**Generalization via Modularity**
*Neural Information Processing Systems (NeurIPS) 2019* **(Spotlight)**
***Deepak Pathak***\*, Chris Lu\*, Trevor Darrell, Phillip Isola, Alexei A. Efros
**Also, The winner of Virtual Creatures Competition at GECCO 2019**

[37] **Third-Person Visual Imitation Learning via Decoupled Hierarchical Control**
*Neural Information Processing Systems (NeurIPS) 2019*
Pratyusha Sharma, ***Deepak Pathak***, Abhinav Gupta

[38] **Self-Supervised Exploration via Disagreement**
*International Conference on Machine Learning (ICML) 2019*
***Deepak Pathak***\*, Dhiraj Gandhi\*, Abhinav Gupta

[39] **Large-Scale Study of Curiosity-Driven Learning**
*International Conference on Representation Learning (ICLR) 2019*
Yuri Burda*, Harri Edwards*, ***Deepak Pathak****, Amos Storkey, Trevor Darrell, Alexei A. Efros
Also at *Deep RL Workshop, NeurIPS 2018* (**Oral**)

[40] **Zero-Shot Visual Imitation**
*International Conference on Representation Learning (ICLR) 2018* (**Oral**)
***Deepak Pathak****, Parsa Mahmoudieh*, Guanghao Luo*, Pulkit Agrawal*, Dian Chen, Fred
Shentu, Evan Shelhamer, Jitendra Malik, Alexei A. Efros, Trevor Darrell

[41] **Investigating Human Priors for Playing Video Games**
*International Conference on Machine Learning (ICML) 2018* (**Long Oral**)
Rachit Dubey, Pulkit Agarwal, ***Deepak Pathak***, Thomas L. Griffiths, Alexei A. Efros

[42] **Learning Instance Segmentation by Interaction**
*Deep Learning in Robotics Vision Workshop (CVPR) 2018* (**Oral**)
***Deepak Pathak****, Yide Shentu*, Dian Chen*, Pulkit Agrawal*, Trevor Darrell, Sergey Levine,
Jitendra Malik

[43] **Curiosity-driven Exploration using Self-Supervised Prediction**
*International Conference on Machine Learning (ICML) 2017*
***Deepak Pathak***, Pulkit Agrawal, Alexei A. Efros, Trevor Darrell

[44] **Learning Features by Watching Objects Move**
*Computer Vision and Pattern Recognition (CVPR) 2017*
***Deepak Pathak***, Ross Girshick, Piotr Dollár, Trevor Darrell, Bharath Hariharan
Also at *Large-Scale Video Understanding Workshop (CVPR) 2017* (**Oral**)

[45] **Toward Multimodal Image-to-Image Translation**
*Neural Information Processing Systems (NIPS) 2017*
Jun-Yan Zhu, Richard Zhang, ***Deepak Pathak***, T. Darrell, A. A. Efros, O. Wang, Eli Shechtman

[46] **Context Encoders: Feature Learning by Inpainting**
*Computer Vision and Pattern Recognition (CVPR) 2016*
***Deepak Pathak***, Philipp Krähenbühl, Jeff Donahue, Trevor Darrell, Alexei A. Efros

[47] **Large Scale Visual Recognition through Adaptation using Joint Representation and
Multiple Instance Learning**
*Journal of Machine Learning Research (JMLR) 2016*
Judy Hoffman, ***Deepak Pathak***, Eric Tzeng, J. Long, S. Guadarrama, T. Darrell, Kate Saenko

[48] **Constrained Convolutional Neural Networks for Weakly Supervised Segmentation**
*International Conference on Computer Vision (ICCV) 2015*
***Deepak Pathak***, Philipp Krähenbühl, Trevor Darrell

[49] **Fully Convolutional Multi-Class Multiple Instance Learning**
*Workshop Track in International Conference on Representation Learning (ICLR) 2015*
***Deepak Pathak***, Evan Shelhamer, Jonathon Long, Trevor Darrell

[50] **Detector Discovery in the Wild: Joint Multiple Instance and Representation Learning**
*Computer Vision and Pattern Recognition (CVPR) 2015*
Judy Hoffman, ***Deepak Pathak***, Trevor Darrell, Kate Saenko

[51] **A Comparison of Forecasting Methods: fundamentals, polling, prediction markets,
and experts**
*Journal of Prediction Markets (JPM) 2015*
***Deepak Pathak***, David Rothschild, Miro Dudík

[52] **Anomaly Localization in Topic-based Analysis of Surveillance Videos**
*Winter Conference on Applications of Computer Vision (WACV) 2015*
***Deepak Pathak***, Abhijit Sharang, Amitabha Mukerjee

[53] **Where is my Friend? - Person identification in Social Networks**
*Automatic Face and Gesture Recognition (FG) 2015*
***Deepak Pathak***, Sai Nitish Satyavolu, Vinay P. Namboodiri

OTHER
PUBLICATIONS

[54] **Generalization in Dexterous Manipulation via Geometry-Aware Multi-Task Learning**
*arXiv 2021*
Wenlong Huang, Igor Mordatch, Pieter Abbeel, ***Deepak Pathak***

[55] **Constrained Structured Regression with Convolutional Neural Networks**
*arXiv 2015*
***Deepak Pathak***, Philipp Krähenbühl, Stella X. Yu, Trevor Darrell

TEACHING
EXPERIENCE

| | |
|---|---|
| **Instructor, 16-824: Visual Learning and Recognition** | Spring 2022 |
| *Carnegie Mellon University* | |

**Instructor, 16-884: Learning for Embodied Action and Perception**    Fall 2021
*Carnegie Mellon University*

**Instructor, 16-824: Visual Learning and Recognition**    Spring 2021
*Carnegie Mellon University*

**CS 280: Computer Vision**    Spring 2016
*University of California, Berkeley*
Graduate Student Instructor with Prof. Alexei A. Efros and Prof. Trevor Darrell

**CS 189/289: Introduction to Machine Learning**    Fall 2015
*University of California, Berkeley*
Graduate Student Instructor with Prof. Alexei A. Efros and Dr. Isabelle Guyon

**Guest Lectures**: Berkeley Learn2Launch Series at UC Berkeley    Spring 2019

**Guest Lecture**: Visual Recognition Class at IIT Kanpur    Spring 2019

**Guest Lecture**: Computer Vision Class at IIT Kanpur    Spring 2017

**Guest Lecture**: Computational & Theoretical Neuroscience Journal Club, UCL    Spring 2017