Abhishek Sinha

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INTERESTS

Computer Vision, Meta Learning, Reinforcement Learning, Deep Learning

EDUCATION

STANFORD UNIVERSITY
MS in Computer Science
Expected June 2021 | Stanford, CA
Cum. GPA: N/A

IIT KHARAGPUR
BTech in E & ECE
2013-2017 | Kharapur, India
Minor in Computer Science
Cum. GPA: 9.63 / 10.0
Minor Cum. GPA: 9.8 / 10.0

COURSEWORK

GRADUATE
Artificial Intelligence
Deep Generative Models
Machine Learning with Graphs

UNDERGRADUATE
Deep Learning
Speech & Natural Languae Processing
Probability & Stochastic Processes
Data Structures and Algorithms

ACHIEVEMENTS

YOUNG ENGINEER AWARD
Won the Outstanding Young Engineers Award at Adobe Inc.

WINNER OF AI HACKATHON
Winner of the Microsoft AI Hackathon competition heald at IIT Kharagpur.

SCHOLARSHIPS
JBNSTS and NTSE scholar.

SKILLS

Python • C • C++
TensorFlow • PyTorch • Caffe
OpenCV • Scikit-learn • Numpy

POSITIONS

COURSE ASSISTANT, CS 330
TEACHING ASSISTANT, ADOBE

EXPERIENCE

ADOBE INC. | Software Development Engineer-2
June 2017 – August 2019 | Noida, India

- Worked on a deep learning based visual search product for clothing based recommendation which accepts images, segments them and then recommends related desired products.
- Worked on the development of a custom image tagging service. The service is live and is integrated with the Adobe Experience Manager.

ADOBE INC. | Intern
May 2016 – July 2017 | Noida, India

- Developed a system to accelerate training of neural networks which was published in ICLR 2017.

PUBLICATIONS

INTROSPECTION: ACCELERATING NEURAL NETWORK TRAINING BY LEARNING WEIGHT EVOLUTION | ICLR, 2017

- Developed an algorithm to speed up training of deep neural networks by predicting future weight values.
- Achieved 20% and 40% improvement in training time for Cifar-10 and ImageNet datasets respectively.

CHARTING THE RIGHT MANIFOLD: MANIFOLD MIXUP FOR FEW-SHOT LEARNING | WACV 2020

- Used self-supervision techniques - rotation and exemplar, followed by manifold mixup for few-shot tasks.
- The proposed approach beats the current state-of-the-art accuracy on mini-ImageNet, CUB and CIFAR-FS datasets by 3-8%.

HARNESSING THE VULNERABILITY OF LATENT LAYERS IN ADVERSARIALLY TRAINED MODELS | IJCAI 2019

- Proposed a new adversarial training methodology to increase the robustness of neural networks against adversarial attacks. The approach improves the adversarial accuracy against strong attacks.

ATTENTION BASED NATURAL LANGUAGE GROUNDING BY NAVIGATING VIRTUAL ENVIRONMENT | WACV 2019

- Made a 2D grid environment in which an agent was trained using A3C algorithm to performs tasks on the basis of natural language sentence.

POWERING ROBUST FASHION RETRIEVAL WITH INFORMATION RICH FEATURE EMBEDDINGS | Best Paper Award at CVPR Workshop, 2019

- Proposed a grid based training of siamese networks, allowing it to observe mutiplte positive and negative image instances simultaneously.

IMPROVING CLASSIFICATION PERFORMANCE OF SUPPORT VECTOR MACHINES VIA GUIDED CUSTOM KERNEL SEARCH | GECCO, 2019

- Used a modification of the neural architecture search to discover a kernel function for SVM over MNIST dataset.