Naren Doraiswamy

Personal Page: https://narendoraiswamy.github.io/

MAIL LINKEDIN GITHUB

Education:

University of Michigan, Ann Arbor *Jan 2021 - Present*

Master of Science in Computer Vision, EECS department

RNS Institute of Technology, Bangalore

Bachelor of Engineering (Honors) in Electronics and Communication, *Aug 2012- June 2016*

- Percentage: 79.14%.(Top 5% in class) Converted GPA (According to WES): 3.8/4.0

Thesis: A numerical framework for feature extraction and simulation of a Ground Penetrating Radar using Finite-difference time-domain (FDTD) algorithm.

Research and Work Experience:

Image Analysis and Computer Vision (IACV) lab, Indian Institute of Science

Deep Learning and Computer Vision Researcher *Aug 2018 – Nov 2020*

- Developed weakly-supervised few-shot object/video segmentation algorithm to segment unseen classes.
- Developed a few shot semi-supervised domain adaptation algorithm from an active learning perspective.
- Worked on developing novel algorithms for semi-supervised and universal domain adaptation methods.

Robert Bosch, India

Associate Software Engineer, Statistical machine learning *Aug 2016 – July 2018*

- Worked on developing data based models in component model team for engine management systems.
- Developed machine learning models for key engine parameter estimations like common rail pressure, turbo-charger lag which were used in vehicle simulation modules.
- Initiated the development of inference model for cylinder fill correction factor using calibrated data from Original Equipment Manufacturers (OEMs).
- Also worked on model predictive control systems for developing the Hardware in-Loop (HiL) models.
- Keynote speaker at Bosch technical forum.

Student Satellite Program, Indian Space Research Organization

Research Intern *Jan 2015 - July 2015*

- Developed gyro-sensor estimation & attitude control modules in satellite system using KALMAN filters.

Publications: (* denotes equal contribution)

Improving Semi-Supervised domain adaptation using effective target selection and semantics. (pdf)
Anurag Singh*, **Naren Doraiswamy***, Sawa Takamuku, Megh Bhalerao, Titir Dutta, Soma Biswas, Aditya Chepuri, Balasubramanian Vengatesan, Naotake Natori.
CVPR L2ID Workshop 2021

Weakly supervised few-shot object segmentation using co-attention with visual and semantic embeddings. (pdf)
Mennatullah Siam***, Naren Doraiswamy*,** Boris Oreshkin*, Hengshuai Yao**,** Martin Jagersand.
IJCAI 2020 (Acceptance Rate: 12.6%)

One-shot weakly supervised video object segmentation. (pdf)
Mennatullah Siam***, Naren Doraiswamy*,** Boris Oreshkin***,** Hengshuai Yao**,** Martin Jagersand**.**
ICLR PML4DC workshop 2020

Manifold co-teaching for semi-supervised domain adaptation
Naren Doraiswamy*, Varun Jampani, Soma Biswas**.** Under Preparation

Universal domain adaptation using self-supervision.
Naren Doraiswamy*, Varun Jampani, Soma Biswas. Under Preparation

Teaching Experience:

Deep Learning Mentor @ Udacity (link) *Jan 2018 - Oct 2020*

- Advice on AI technical topics, explanation of incorporating and building efficient deep learning models.
- Provided 1:1 mentoring sessions for students enrolled in the Udacity AI nanodegrees.
- Provided actionable and helpful feedback to student projects in their code development

AI Coach @ AI Saturdays Bangalore *Jul 2018 - Apr 2019*

- I taught deep learning every Saturday at a community meetup aimed towards building a passionate AI community in the city.

Skills:

Programming skills:

- Python, C, C++, Matlab, Bash.

Toolkits/Frameworks:

- Pytorch, Tensorflow, MXNet, OpenCV, Caffe

Awards and Honors:

- Ministry of Human Resource Development (MHRD) Scholarship, Government of India. 2012-2016
- International science Olympiad finalist 2012.
- Jnanamitra Pratibha Puraskara award for outstanding performance in 10th Board Examination. 2010.

Volunteer Experience:

- **Bosch CSR group**: I was part of the volunteering team which taught mathematics and science classes for underprivileged high school kids.

- **STEM Fellowship:** I serve as a mentor at the non-profit STEM Fellowship program for high school kids who are interested in Computer Science.

Extracurricular activities:

- District level football player.
- President of the science and literary club in School.