Prabhu Teja Sivaprasad

www.idiap.ch/~prabhuteja/
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Education

2018-Now **Doctor of Philosophy (PhD)**, *Electrical Engineering*, Idiap Research Institute, École polytechnique fédérale de Lausanne (EPFL), Switzerland.
Advisor: Dr. François Fleuret

2015 **Master of Science (Electronics and Communication Engineering)**, *Center for Visual Information Technology (CVIT), International Institute of Information Technology*, Hyderabad, India, *GPA: 9.67/10.0*.
Advisor: Dr. Anoop M Namboodiri

2010 **Bachelor of Technology (Electronics and Communication Engineering)**, *Vellore Institute of Technology*, Vellore, India, *GPA: 8.82/10.0*.
Advisor: R Prakash

Experience

09/2021-02/2022 **Applied Sciencist Intern**, *AWS*, **Amazon Development Center Germany GmbH**.
Project on large scale optimization.

11/2018- Now **Research Assistant**, *Machine Learning group*, **Idiap Research Institute, Switzerland**.

- Method for adapting networks to domain shifts at inference time using augmentation robustness. Accepted for publication at NeurIPS 2021 Workshop on Distribution Shifts.
- Method for unsupervised domain adaptation for semantic segmentation. Specifically the case of source data-less domain adaptation using uncertainty quantification. Published CVPR 2021.
- Critical study of the practices of benchmarking of optimizers. Defined the notion of tunability. Large scale experimentation revealed that Adam optimizer is the most tunable of the considered list. Published at ICML 2020.
- Teaching Assistant (TA) for the course EE-559 on Deep Learning ($\sim$ 400 students) taught by Dr François Fleuret at EPFL for the spring semesters of 2020, 2021. My tasks are to hold tutorial sessions after each lecture, and to evaluate course projects.

4/2017-10/2018 **Research Scientist**, *Self Serviced Performance Advertising*, **Amazon Development Center India**.

- Built NLP models for auto-moderation of advertisements on Amazon site using word embeddings, sentence embeddings, cross-lingual transfer
- Productionised models for scoring millions of ads with low latency constraints.

07/2014-02/2017 **Research Engineer**, *Imaging and Computer Vision group*, **Siemens Healthineers Pvt Ltd, Bangalore**.

- Segmentation of human vertebra in Computed Tomography images: Active Shape models, Machine Learning (Random Forest) based boundary detection and Laplacian Mesh deformation
- Non-linear optimization for parameter estimation of Magnetic Resonance Imaging using Levenberg-Marquardt and Nelder-Mead (Simplex) method.
- Deep neural networks for organ detection and segmentation in Computed Tomography images.

02/2014-06/2014 **Intern**, *Imaging and Computer Vision group*, **Siemens Corporate Research and Technology, Bangalore**.

- L-M (Leung-Malik) texture analysis for faulty steel plate detection from camera feeds.
- Large scale random forests for handling large number of medical volumes.

Publications

- *Prabhu Teja, Fleuret, F* **Test time Adaptation through Perturbation Robustness** *NeurIPS 2021 Workshop on Distribution Shifts*. [PDF]
- *Prabhu Teja, Fleuret, F* **Uncertainty Reduction for Model Adaptation in Semantic Segmentation** *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2021.* Webpage at `https://git.io/JthPp`.
- *Prabhu Teja, Mai, F., Vogels, T., Jaggi, M. and Fleuret, F* **Optimizer Benchmarking Needs to Account for Hyperparameter Tuning** *In Proceedings of the 37th International Conference on Machine Learning (ICML), 2020.* Webpage at `https://git.io/J0qV9`.
- *Prabhu Teja, Namboodiri, A* **A Ballistic Stroke Representation of Online Handwriting for Recognition.** *International Conference on Document Analysis & Recognition–2013* [PDF].

Programming skills

Languages Python, C++

Libraries PyTorch, Scientific Python ecosystem, Eigen

Professional Activities

Reviewer for NeurIPS 2022, ICLR 2022, IEEE Transactions on Multimedia.