Rajanie Prabha

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SKILLS

Computer Vision, Machine Learning, Data Analytics, Power Grid, Optimization, Python, PyTorch, TensorFlow

EDUCATION

Stanford University, PhD, AI for Sustainability — Oct 2021—Present
Technical University of Munich, Master of Science, Computer Science — Oct 2017—Nov 2019
National Institute of Technology Kurukshetra, Bachelor of Technology, Computer Science — Aug 2012—July 2016

SELECTED PUBLICATIONS

1. M. Wussow, C. Zanocco, Z. Wang, **R. Prabha**, J. Flora, D. Neumann, A. Majumdar, R. Rajagopal, "*Exploring the Potential of Non-Residential Solar to Tackle Energy Injustice*," Nature Energy, 2023.
2. Z. Wang, **R. Prabha**, T. Huang, J. Wu, R. Rajagopal, "*SkyScript: A Large and Semantically Diverse Vision-Language Dataset for Remote Sensing*," AAAI 2024.
3. P. Buitrago, E. Toropov, **R. Prabha**, J. Uran, R. Adal, "*MiikeMineStamps: A Long-Tailed Dataset of Japanese Stamps via Active Learning*," ICDAR, Conference Paper, September 2021.
4. **R. Prabha**, M. Tom, M. Rothermel, E. Baltsavias, L. Leal-Taixe, K. Schindler, "*Lake Ice Monitoring with Webcams and Crowd-Sourced Images*," ISPRS Conference Paper, August 2020.

RESEARCH EXPERIENCE

Stanford University, Graduate Research Assistant in Prof. Ram Rajagopal's Lab — Oct 2021—Present

- Created a large image-text dataset for remote sensing with 2.6 million image-text pairs covering 29K distinct semantic tags.
- Conceptualized and implemented a cost-effective data acquisition pipeline that spatiotemporally tracks and monitors solar PVs across the US at the building level with over 90% accuracy.

Pittsburgh Supercomputing Center, Machine Learning Research Scientist — Feb 2020—Sept 2021

- Benchmarked and performed a comparative evaluation of various AI hardware: NVIDIA Pascal, Voltas, DGX-2 for Maskrcnn and Single Stage Detection Models.
- Supervised a project on active learning with the University of Pittsburgh as an Extended Collaborative Support Service ML expert under Extreme Science and Engineering Discovery Environment (XSEDE).
- Reviewed proposals, created user guide, and provided Machine Learning assistance to 10 projects across the US involved with the Early User Program of Neocortex, the AI supercomputer built on Cerebras chips.
- Developed and ran a workshop on Nvidia profilers, singularity containers, Scaling best practices, and related research findings.

ETH Zurich, Student Researcher, advised by Prof. Konrad Schindler — Apr 2019—Nov 2019

- Designed and implemented a semantic segmentation model Deep-U-Lab to detect ice on lakes in Switzerland.

PROFESSIONAL EXPERIENCE

[**Google**] **X, Moonshot factory, Mountain View**, AI PhD Resident — Jun 2024—Aug 2024

- Worked on asset management for **Tapestry**, X's moonshot for the electric grid. Trained a computer vision model for detecting the electrical properties of pole-mounted transformers with 90% accuracy.

Philips Innovation Center, Bangalore, Software Engineer — Jun 2016—Jul 2017

- Maintained various features like remote accessibility, log collection, monitoring rules, data sources, and regular expressions on the Serviceability Platform for various medical devices and resolved around 50 customer requests. Awarded Philips Recognition Certificate for handling Computed tomography and Magnetic resonance imaging modalities.

Luminovo.AI, Munich, Research Intern — Apr 2018—Sept 2018

- Implemented Tacotron 2 paper (Text-to-Speech Synthesis) on the English LJ speech dataset and German Angela Merkel dataset (M-AILABS).

COURSES

Stanford CS: 224W, 236, 330; **CEE:** 247C, 263H, 272R, 273S, 322, 330, 362G; **ESS:** 271

VOLUNTEER ACTIVITIES

- Reviewer: ML4PhyscialSciences NeurIPS Workshop 2019—2020, ML reproducibility challenge 2020, 2021
- AnitaB.org AI Committee Member who helps to develops and delivers AI mini-workshops and supports the 1,000-member community since 2019.
- Google's Women Techmakers Ambassador