Dr. Pushkar Kopparla

Researcher at the University of Bern, Switzerland

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Skills

- Scientific python (numpy, matplotlib, opencv), machine learning (pandas, sklearn, tensorflow)
- Git, Docker, Slurm, Amazon Web Services (AWS)
- Scientific writing and presentation, data analysis, research and development

Education

- **PhD in Planetary Science** — **2013 – 2018**
  California Institute of Technology (Caltech) — Pasadena, USA
- **MSc in Atmospheric and Climate Science** — **2011 – 2013**
  Eidgenossische Technische Hochschule Zurich (ETH Zurich) — Zurich, Switzerland
- **BTech in Engineering Physics** — **2007 – 2011**
  Indian Institute of Technology Delhi (IIT Delhi) — New Delhi, India

- **Certifications:** Machine Learning Specialization (by Andrew Ng / Coursera), AWS Developer Associate

Work Experience

CSH Fellow (Independent Postdoctoral Researcher) — **Oct 2020 – Present**
University of Bern — Bern, Switzerland

- led research project involving running climate models on a high performance computing cluster and analyzing terabyte sized datasets.
- developed new measures for estimating model errors and published a paper uncovering a wide-ranging issue that affects most exoplanet climate simulation studies in the past decade.
- contributed code to open-source geospatial libraries like xarray, georust, zonebuilder on Github.

JSPS Fellow (Independent Postdoctoral Researcher) — **Sep 2018 – Sep 2020**
University of Tokyo — Tokyo, Japan

- designed data pipelines to download, select, clean, impute and analyze hundreds of satellite images of Venus using an unsupervised machine learning technique (PCA) to identify patterns in images of clouds.
- communicated results by publishing 5 peer-reviewed journal papers and giving talks at 4 international conferences.
- led seminars to mentor masters and bachelors level students on scientific talks and paper writing.

Graduate Research Assistant (PhD Candidate) — **Jul 2013 – June 2018**
California Institute of Technology — Pasadena, USA

- developed radiative transfer models to be used in interpreting ground and satellite-based remote sensing atmospheric data.
- published research results in 8 peer-reviewed papers and gave talks at 10 international conferences.
- served as teaching assistant to four undergraduate courses, led tutorial sessions and geological field trips, and mentored four summer research students.