

# Dr. Pushkar Kopparla

Atmospheric science and remote sensing researcher

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## Skills

- Scientific python (numpy, matplotlib, opencv), machine learning (pandas, sklearn, tensorflow)
- Git, Docker, Slurm, Amazon Web Services (AWS), GDAL, Rust
- 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**  
Eidgenössische 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 projects involving running climate models on a high performance computing cluster and analyzing terabyte sized datasets.
- independently reproduced image processing pipeline for producing higher level satellite imagery product from published papers
- 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 peer-reviewed journal papers and giving talks at 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.