Dr. Pushkar Kopparla

Lead Researcher, R&D Team, Solafune Inc.,
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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**
  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

Lead Researcher — **May 2023 – Present**
Solafune Inc., — Osaka, Japan
- leading efforts in productizing satellite imagery for various applications

CSH Fellow (Independent Postdoctoral Researcher) — **Oct 2020 – Apr 2023**
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.