

# ALESSONDRA “SONDY” SPRINGMANN, PHD

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## PROFESSIONAL SUMMARY

Data scientist with a PhD in Planetary Sciences and experience in data analysis, algorithm development, and machine learning. Expert in extracting insights from complex datasets. Proven record on large-scale scientific projects, developing automated analysis pipelines, communicating results, and collaborating effectively across organizations. Seeking to apply quantitative analysis expertise to drive meaningful societal impact through data-driven insights.

## SKILLS

- Data analysis, cross-functional collaboration, user feedback integration, problem solving, teamwork, delegation, conflict resolution, written communication, public speaking, mentoring, creativity
- Python, Pandas, Numpy, Sympy, Scipy, Scikit-learn, Git/GitHub, SQL, matplotlib, Asana, Microsoft Teams, Slack, Google Workspace, Excel

## SELECTED PROFESSIONAL EXPERIENCE

Southwest Research Institute, Boulder, CO | Postdoctoral Researcher | Sept. 2022–Mar. 2025

- Collaborated and coordinated with distributed, cross-functional teams across multiple institutions to turn requirements into consistent, high-quality hardware and software research outputs
- Developed automated analysis pipeline using Python and scikit-learn for  $k$ -dimensional tree implementation of nearest-neighbors using machine learning
- Created data collection procedures and implemented aerospace industry-standard checklists to ensure experiment success
- Reduced risk for hardware experiments flown on and operated aboard reduced-gravity test flights

University of Arizona, Tucson, AZ | Graduate Research Associate | Aug. 2014–Aug. 2022

- Coordinated multi-institutional telescope observing campaign across 3 observatories with 60+ nights of data collection requiring frequent meetings with a variety of stakeholders
- Calibrated and processed messy image data, modeled data to constrain physical processes
- Connected multiple datasets to make predictions for scientific results from future spacecraft mission based on laboratory measurements
- Authored and co-authored 12 peer-reviewed scientific publications; presented research at annual scientific conferences; presented research results at colloquia at other institutions
- Mentored junior graduate students; organized conferences; served as student alumni relations chair

Arecibo Observatory, Arecibo, PR | Data Analyst & Observing Support | Oct. 2012–Jul. 2014

- Analyzed asteroid detection and orbital observations in real-time to refine data collection methodologies
- Re-processed legacy radar observations with modern analysis tools to extract new insights
- Generated large datasets from planetary radar observations for comparative studies