

# Steven F. Sholes, Ph.D.

Data Scientist, Planetary Scientist & Astrobiologist

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<b>EDUCATION</b>	<b>University of Washington</b> Ph.D., Earth and Space Sciences & Astrobiology (dual-title)	Seattle, WA 2019
	<b>Cornell University</b> B.A., Astronomy (Minor in Mathematics), <i>cum laude</i>	Ithaca, NY 2013
<b>TECHNICAL SKILLS</b>	<i>coding in:</i> Python, Fortran, MatLab, R, SQL, IDL, Mathematica, HTML infrared and multispectral image processing • optimization and physics models • data analysis and visualization • statistical simulations • complex and large datasets • object-based image analysis • scanning electron microscopy • geographic information systems photogrammetry • understanding of machine learning techniques	
<b>PROFESSIONAL EXPERIENCE</b>	<b>University of Washington</b> <i>-Research Assistant</i>	Seattle, WA 2013 – 2019
	<ul style="list-style-type: none"><li>• Performing self-directed cross-disciplinary quantitative research Mars' habitability.</li><li>• Programming top atmospheric physics models and optimization procedures.</li><li>• Completing multispectral image analysis, geological mapping, and image processing.</li><li>• Collaborating on developing an open-source boulder-detecting Python package.</li><li>• Publishing in top-tier academic journals and invited to give talks at top conferences.</li></ul>	
	<i>-Graduate Research Mentor</i>	2014 – 2019
	<ul style="list-style-type: none"><li>• Directing and managing a team of six undergraduate researchers to collect and analyze boulder data and develop a stochastic model for predicting geologic origins.</li><li>• Awarded multiple merit-based fellowships for further research funding, professional development workshops, conference travel, and hiring a summer research intern.</li><li>• Leading a committee which successfully improved departmental graduate curriculum and acting as a liaison between faculty, students, and administration.</li></ul>	
	<i>-Research Assistant – Astrophysics Rotation Project</i>	2015
	<ul style="list-style-type: none"><li>• Performing principal component analysis to detrend complex datasets and developing a way to integrate them with dissimilar datasets.</li><li>• Implementing a 15-variable Markov chain Monte Carlo simulation and applying various levels of noise to estimate observational limits on exoplanet masses.</li></ul>	
	<i>-Teaching Assistant</i>	2015 – 2019
	<ul style="list-style-type: none"><li>• Developing teaching materials (e.g. lectures, assignments) and guiding laboratories for nine different courses (100 to 400 level), covering a wide range of expertise.</li><li>• Training students in critical thinking; collaborating with team of faculty and other teaching assistants on ways to improve student retention and learning.</li></ul>	
<b>PUBLICATION &amp; TALKS SUMMARY</b>	<ul style="list-style-type: none"><li>• 3 first-authored interdisciplinary papers in <i>JGR:Planets, Icarus, Astrobiology</i></li><li>• 3 papers drafted for publication in <i>GRL, Icarus, Computers and Geoscience</i></li><li>• 2 co-authored papers in <i>Astrobiology, Icarus</i></li><li>• 6 international conference talks for diverse research audiences of 50-300 (+4 posters)</li></ul>	