# Adam Bruce Shinn


**Contact Information**

*email:* adam@kwhanalytics.com

*github:* github.com/abshinn
*blog:* abshinn.github.io
*in:* linkedin.com/in/abshinn



**Summary**

*Data scientist in the solar industry with a background in planetary science, passionate about using data to tell stories and problem-solve.*


**Relevant Experience**

**Data Scientist** December 2014 - *present*
kWh Analytics, San Francisco, California
Mission statement: More solar through better data, de-risking photovoltaic plant performance through data-driven analytics.

- Technical principal investigator of two Department of Energy SunShot Initiative awards.
- Developed RdTools, an open-source photovoltaic degradation analysis toolbox, in collaboration with industry-leading PV reliability researchers at the National Renewable Energy Laboratory.

**Data Science Fellow** May 2014 - September 2014
Zipfian Academy, San Francisco, California

**Consultant Scientific Software Developer** April 2012 - November 2012
Laboratory for Atmospheric and Space Physics, University of Colorado at Boulder
*Magnetospheres of Outer Planets Group, Advisor: Fran Bagenal*

- Developed a graphical user interface to an empirical model of the Io Plasma Torus. http://lasp.colorado.edu/mop/resources/code/#toruswidget

**Consultant Scientific Software Developer** September 2010 - October 2011
Southwest Research Institute, Boulder, Colorado
*Department of Space Studies, Advisor: Andrew Steffl*

- Calibrated and analyzed data from various NASA spacecraft including Cassini, New Horizons, Hubble Space Telescope, and STEREO.

**Research Assistant / Scientific Programmer** April 2009 - September 2010
Laboratory for Atmospheric and Space Physics, University of Colorado at Boulder
*Magnetospheres of Outer Planets Group, Advisor: Fran Bagenal*

- Assisted research group in scientific software development, data engineering, data visualization, and research support.

**Education**

**Professional Development** April 2013 - May 2014

- Machine Learning, *Stanford University (Coursera)*
- Computing for Data Analysis, *Johns Hopkins University (Coursera)*
- Programming with R, *U.C. Berkeley Extension*
- Python Programming, *U.C. Berkeley Extension*

**University of Colorado at Boulder**, Boulder, Colorado August 2007 - May 2010

- B.A., Astrophysics

**Computational Skillset**

- Scripting and Analysis {Bash, Python, R}
- Python {NumPy, Matplotlib, Pandas, Scikit-Learn, Jupyter, PVLIB-Python}
- Data at Scale {PostgreSQL, MongoDB, AWS Cloud Computing}
- Adobe Products {Acrobat Professional, Illustrator}
- Word Processing {LaTeX, MS Office}

## Conference Presentations

Data-Driven Degradation Analysis to Improve Accuracy of Financial Models, *conference poster*, **A.B. Shinn**, Solar Power International, Las Vegas, *September, 2017*

Cross-sector opportunities to improve solar data analysis and capabilities, *conference talk*, **A.B. Shinn**, DuraMAT Workshop, Stanford University, *May 23, 2017*

RdTools: Open-Source Degradation Analysis Toolbox, *conference poster*, **A.B. Shinn**, D.C. Jordan, C. Deline, M.G. Deceglie, Photovoltaic Reliability Workshop, Golden, Colorado, *March, 2017*

Quasi-periodic electron bursts in the Jovian magnetosphere, *conference talk*, A.J. Steffl and **A.B. Shinn**, American Geophysical Union, *December 2012*

Azimuthal Variations in the Io Plasma Torus and the Role of Hot Electrons, *conference poster*, A.J. Steffl and **A.B. Shinn**, Division for Planetary Science, *October 2012*

The Io Plasma Torus During the Cassini Flyby of Jupiter, *conference poster*, A.J. Steffl and **A.B. Shinn**, American Geophysical Union, *December 2011*

A Search for Vulcanoids Using STEREO Heliospheric Imager Data, *conference poster*, A.J. Steffl, N.J. Cunningham, **A.B. Shinn**, D.D. Durda, S.A. Stern, European Planetary Science Congress, *October 2011*

Energetic electrons in the Jovian Magnetosphere detected by the Alice UV spectrograph aboard New Horizons, *conference poster*, A.J. Steffl, **A.B. Shinn**, et al., Magnetospheres of Outer Planets, *August 2011*

Anticipating Juno, *conference poster*, **A.B. Shinn** and F. Bagenal, American Geophysical Union, *December 2010*

## Publications

A.J. Steffl, N.J. Cunningham, **A.B. Shinn**, D.D. Durda, and S.A. Stern (2013), A Search for Vulcanoids with the STEREO Heliospheric Imager, *Icarus*, 223

Steffl, A. J., **A. B. Shinn**, G. R. Gladstone, J. W. Parker, K. D. Retherford, D. C. Slater, M. H. Versteeg, and S. A. Stern (2012), MeV electrons detected by the Alice UV spectrograph during the *New Horizons* flyby of Jupiter, *J. Geophys. Res., 117*, A10222

S.A. Stern, N.J. Cunningham, M.J. Hain, J.R. Spencer, **A. Shinn** (2012), First Ultraviolet Reflectance Spectra Of Pluto and Charon by the HST Cosmic Origins Spectrograph: Detection of Absorption Feature and Evidence for Temporal Change, *The Astronomical Journal*, 143