Alison (Ali) Mansheim, PhD

Davis, CA | alison.mansheim@gmail.com | (703) 628-4246

I am an aspiring data scientist who recently completed a PhD in physics with a concentration in cosmology. In pursuit of my dissertation I taught myself programming and statistics which have, in turn, become a new passion. I have learned the importance of critical thinking by way of publishing in peer reviewed journals and hope to bring this skill to industry, along with my love for collaboration and learning new things.

Computing Skills: Python (Pandas, Numpy, Scipy), MySQL, IDL, C, Unix/Linux

Education

PhD Physics, University of California – Davis	2016
MS Physics, San Francisco State University	2009
BA Astrophysics, University of Virginia	2005

Work Experience

University of California, Davis, California — 2009-2016

PhD Thesis: *Star Formation in Merging Clusters of Galaxies.*
-Complete computational and statistical analysis of cosmological data from proposal and observation on Keck Telescope to publication in peer reviewed scientific journal.
-Construction of pipeline in **Python**, **IDL and MySQL** to clean, analyze and plot data.
-Creation of series of ipython notebooks for analysis of second project for transparent and collaborative synthesis and analysis of results
Teaching Assistant (2009-2015). Calculus and non-calculus based physics and astronomy courses.
Merging Cluster Collaboration. Member. Collaboration with UC-Irvine uniting simulation and observation of galaxy clusters to constrain properties of dark matter.
ORELSE Survey. Member. Analysis of spectral and photometric data to study environmental effect of large-scale structure on galaxy evolution at high redshifts.

San Francisco State University, San Francisco, California — 2006-2009

MS Thesis: *Modeling the Dark Matter Distribution in Clusters of Galaxies.*
-Created module to model anisotropic velocity dispersion in cores of clusters of galaxies using **C**.

National Radio Astronomy Observatory, Charlottesville, Virginia — 2005-2006

-Created module to remove radio interference for detection of giant pulses using **Python**.

University of Virginia, Charlottesville, Virginia — 2003-2005

Undergrad Thesis: *Ionization in the Narrow Line Region of Active Galactic Nuclei.*
-Edited simulation code *Cloudy* to create suite of models using **C**.
2 Micron All-Sky Survey Extended Mission,
-Created data quality tests in **PosgreSQL** in **Linux/Unix** environment.

Telescope Observations:

Keck Observatory, Waimea, Hawaii (2013). Multi-slit optical spectroscopy of galaxies.
Greenbank Telescope, Greenbank, West Virginia (2006). Radio emission from pulsars.
Arecibo Observatory, Arecibo, Puerto Rico (2005). Radio emission from pulsars.

Activities and Honors:

Physics Department Graduate Research Fellowship, UC-Davis (Winter/Spring 2016).
Women of Color (WOC) Academic Summit, UC-Davis (2015). Presentation: *Boom or Bust: Star Formation in Merging Clusters of Galaxies*.
America Astronomical Society Meeting (2009)**.** Poster presentation: *Decoding Dark Matter: A Dynamical Code for the Joint Analysis of Cluster Observations*.
College of Science and Engineering Showcase, SFSU (2009). Honorable Mention.
President, Society of Physics Students, University of Virginia (2005).
Washington Literary and Debate Society, University of Virginia (2003-2005).

Hobbies: Running, backpacking, climbing, drawing, belly dancing, piano, origami, Burning Man
To do list: SCUBA certification, Aikido, climb Mt. Shasta, aerial silks