ANDREW THOMAS MCNICHOLS

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EXPERIENCE

Software Engineer   Nov. 2018 - Present
National Radio Astronomy Observatory   *Charlottesville, VA*

· Designing and implementing algorithms to modernize data manipulation infrastructure, minimize engineering overhead, maximize performance, ensure mature and reliable functionality.
· Lead developer for simulations, responsible for all aspects of the software engineering life-cycle: requirements derivation from broad scientific objectives through design, development, and integration with observatory operations.

Systems Administrator   Sep. 2017 - Nov. 2018
National Radio Astronomy Observatory   *Charlottesville, VA*

· Managed and developed hardware and software systems and tools associated with the North American ALMA Science Center archive and pipeline operations Petascale computing infrastructure.

Scientific Data Analyst   Sep. 2015 - Sep. 2017
National Radio Astronomy Observatory   *Charlottesville, VA*

· Conducted analysis of astronomical data for pipeline operations and development including investigations to identify and rectify issues in collaboration with teams of engineers and astronomers.

Staff Research Assistant   Sep. 2014 - Aug. 2015
Macalester College   *Saint Paul, MN*

· Processed, managed, analyzed, and published Terascale proprietary and public scientific data from astronomical observatories (including VLA, Hubble, Spitzer) for an international research collaboration.

Akamai Science Intern   Jun. 2014 - Aug. 2014
Smithsonian Astrophysical Observatory Submillimeter Array   *Hilo, HI*

· Developed visualization software for theoretical models of astronomical dust polarization using Python and C programming on research Linux system.

Undergraduate Research Fellow   Aug. 2013 - Jun. 2014
NASA Hawai'i Space Grant Consortium   *Hilo, HI*

· Managed hardware and software for a cosmic ray detection experiment using research Linux systems, particle detector, digital oscilloscope, Python and C++ programming.

Science Intern   May 2013 - Nov. 2013
Gemini Observatory   *Hilo, HI*

· Ported and developed data reduction pipelines for two near-infrared spectrographs using Python, IDL, IRAF, and shell scripting.

EDUCATION

University of Hawaii - Hilo, HI   August 2011 - June 2014
B.Sc. Astronomy; B.A. Physics
University of Vermont - Burlington, VT   August 2010 - June 2011