Akeem Justin Wells

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Interests

Code Development, Technology Development, High-Performance Scientific Computing, Data Mining, Machine Learning

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Education

University of Virginia	*Charlottesville, Virginia*
M.S. Data Science	*2022*
Florida Institute of Technology	*Melbourne, Florida*
B.S. Interdisciplinary Sciences; Minor: Physics	*Graduated: 2013*

Work Experience

National Radio Astronomy Observatory   *Charlottesville, Virginia*
    Software Engineer III   *2015 – Present*
    Software Engineer II   *November 2014 – 2015*

- Work with CASA (*Common Astronomy Software Applications* package) developers, project scientists, data analysts and stakeholders to implement and maintain a comprehensive test program in addition to identifying and solving problems.
- Under general instruction and using pre-established guidelines; designs, develops and implements software applications for subsystems
- Participates in documentation, installation, testing , maintenance support and further development of software subsystems within established standards
- General Automated Test support for CASA including test development, implementation and analysis

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Research Experience

Florida Institute of Technology   *Melbourne, Florida*
    Astronomy Research Assistant   *Winter 2009 – Fall 2014*

- Statistical analyses of RR Lyrae light curves to identify Blazhko variability
- Performed time-series BVRI photometry of periodic variable stars using meter-class telescopes both remotely and in person
- Developed Python codes for the automated analysis of very large data sets implementing Fourier decompositions, Lomb-Scargle period analyses, and template fitting.
- Utilized Python, Pyraf, IRAF, and Astromatic software to develop an unsupervised automated differential photometry data analysis pipeline
- Utilized Python and R for Hierarchical classification of RR Lyrae

Brookhaven National Laboratory   *Upton, New York*
    DOE Summer Research Fellow   *Summer 2011*
- Evaluated micron-scale surface flatness deviations of packaged, 4-side buttable CCD prototypes for the Large Synoptic Survey Telescope (LSST) at room temperature and at cryogenic temperature
- Developed Python-based machine control software for the development of an automated CCD package metrology system
- Developed data analysis and data visualization codes using Python and R to aid with the interpretation of CCD package metrology measurement

University of Washington   *Seattle, Washington*
    Astronomy Research Experience Undergraduate   *Summer 2010*
- Developed Python code to simulate observations of RR Lyrae stars to ascertain the capabilities of the upcoming Large Synoptic Survey Telescope
- Developed Python codes to calculate statistical properties of a set of 36 million RR Lyrae light curves
- Work resulted in a publication in *The Astronomical Journal*

Journal Publications

Oluseyi, H.M.; Becker, A.C.; Culliton, C.; Furqan, M.; Hoadley, K.L.; Regencia, P.; Wells, A.J.; Ivezic, Z.; Jones, R.L.; Krughoff, K.S.; Sesar, B.; Jacoby, S.; Allison, I.J.. 2012. Simulated LSST survey of RR Lyrae stars throughout the Local Group. *AJ* **144**, pp. 9–17.

Oluseyi, H.M.; Becker, A.C.; Culliton, C.; Furqan, M.; Hoadley, K.L.; Regencia, P.; Wells, A.J.; Jones, L.; Krughoff, S.; Sesar, B.; Jacoby, S. 2011. LSST Observations of RR Lyrae Stars for Mapping the Galactic Halo. *Tracing the Ancestry of Galaxies (on the land of our ancestors)*, *IAU Proc.*, **277**, p. 300–304.

Oluseyi, H.M.; Becker, A.; Culliton, C.C.; Furqan, M.; Hoadley, K.L.; Regencia, P.; Wells, A.J.; Allison, I.J.; Jacoby, S.; Ivezic, Z.; Jones, L.; Krughoff, S.; Sesar, B. 2011. Measuring RR Lyrae Stars Throughout the Local Group with LSST. AAS Meeting #217, #252.13; *Bull Am. Astr. Soc.*, **43**, 2011.