Octavian Rasmussen-Achterberg

Observational Astronomer, Time-Domain Surveys

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SUMMARY

Observational astronomer with a PhD and 6 years of postdoctoral research on supernovae and variable stars in wide-field surveys. Builds Python pipelines that process nightly survey images, has led 9 successful telescope proposals and has 21 refereed papers, 6 as first author.

EXPERIENCE

Postdoctoral Research Associate — Saguaro Crest Observatory

Tucson, AZ · Sep 2022 – Present

- Built a Python transient classification pipeline that scores about 40,000 survey alerts a night with 93% precision on a labeled test set.
- Led 5 accepted proposals for 18 nights on 4-meter class telescopes for spectroscopic follow-up of young supernovae.
- Cut image subtraction runtime from 7 hours to 50 minutes per night by moving the code to a 64-core cluster with Dask.
- Published 4 first-author papers on early supernova light curves and co-authored 9 more.
- Supervised 3 graduate students, 2 of whom presented their results at national meetings.

Postdoctoral Fellow — Prairie Lantern Institute for Astrophysics

Lincoln, NE · Aug 2020 – Aug 2022

- Measured periods for 2,300 variable stars from 5 years of survey photometry using Lomb-Scargle and Gaussian process methods.
- Wrote a public catalog with documented code, downloaded more than 1,200 times in its first year.
- Gave 6 invited talks and taught a 10-week Python course for 22 graduate students.

SKILLS

Astronomy: Time-domain astronomy, supernovae, variable stars, photometry, spectroscopy, light curve modeling

Observing: Optical imaging and spectroscopy, observing proposals, remote observing, data reduction

Code and data: Python, NumPy, Astropy, pandas, scikit-learn, SQL, Dask, Git, Linux, HPC clusters

Statistics: Bayesian inference, MCMC, Gaussian processes, time-series analysis, classification

CERTIFICATIONS

Software Carpentry Instructor, 2021

EDUCATION

PhD, Astronomy, University of Texas at Austin, 2020

BS, Physics and Astronomy, University of Washington, 2014

Fictional example by FindAJobAI: the person, employers and numbers are invented.