Dillon J Teal ("Teal")

Astrophysicist; Data Expert; Software Engineer; Fiber Artist

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Pronouns: They/Them
https://teald.github.io/

PROFESSIONAL EXPERIENCE

University of Maryland, College Park — *Research Assistant*

August 2021 - Present

- Python and C high-performance software development for a novel 1-D photochemistry model
- Working with large datasets to analyze trends, create pipelines, and write technical reports
- Participant in international collaborations to develop new scientific software and write scientific publications about exoplanetary atmospheres and the nature of their composition

University of Maryland, College Park — *Graduate Assistant*

August 2018 - August 2021

- Developed programs in Python, C, and Fortran to model Exoplanet atmospheres from baseline physics and chemistry to observable characterization
- Co-investigator for successful national proposals through the Hubble Space Telescope and the National Science Foundation
- Taught university courses in astronomy and mathematics

NASA Goddard Space Flight Center, Greenbelt, MD — *Research Contractor/Front-End Python Developer*

January 2017 - August 2018

- Software maintenance for the Atmos photochemistry and climate model
- Developed Python and Bash programs to automate running and analysis of the scientific models
- Worked on a Docker and Django-based web framework to provide a streamlined platform for shipping scientific models to customers and the scientific community
- Explored Machine Learning applications to future observatory images and data

University of California, Santa Cruz, CA — *Junior Specialist*

January 2016 - December 2016

- Used large computing clusters and Python job management systems to characterize haze-bearing atmospheres
- Worked with high-performance computing software written in Fortran and Python
- Analyzed data from the *Cassini* satellite's observations of Saturn's moon Titan

NASA Goddard Space Flight Center, Greenbelt, MD — *Remote Contractor*

August 2015 - December 2016

- Maintained several atmospheric models in Fortran and Python
- Managed model development remotely with a team across time zones
- Developed novel solutions for updating legacy models (primarily those written in Fortran 77 and 95)

EDUCATION

University of Maryland, College Park, MD — *Master's of Science in Astronomy,* 2020

University of California, Santa Cruz, CA — *Bachelor's of Science in Physics (Astrophysics), Minor in Pure Mathematics, Cum Laude,* 2015

PROGRAMMING EXPERIENCE

+ Python

+ Fortran

+ C/C++

+ HTML/CSS

+ bash

TOOLS

+ numpy, pandas, matplotlib, scipy, astropy, pytorch

+ Jupyter Notebooks

+ git

+ LaTeX

+ Docker

+ SQL

+ OS: Windows, Linux (Ubuntu, CentOS, Debian), and macOS

OTHER SKILLS

+ Microsoft Office suite

+ Visual Studio

+ Technical writing for scientific publications and product documentation

AWARDS

+ Philip E. Angerhofer Outstanding Teaching Assistantship Award

PUBLICATIONS

+ Teal et al. 2022

+ Marley et al. 2021

+ Diamond-Lowe et al 2021

+ Melbourne et al. 2020

+ Kopparapu et al. 2018

+ Morley et al. 2017