Kyle Pearson

pearsonk@lpl.arizona.edu | 949-375-8423

EDUCATION

UNIVERSITY OF ARIZONA
Ph.D. Planetary Science
Expected May 2020 | Tucson, AZ
B.S. Astronomy & Mathematics
May 2014 | Tucson, AZ

NORTHERN ARIZONA UNIVERSITY
M.Sc. Applied Physics
May 2016 | Flagstaff, AZ
Graduated with Distinction

LINKS

Github:// **pearsonkyle**
Instructables:// **Poopy Pigeon**

COURSEWORK

GRADUATE
Statistics & Regression Analysis
Advanced Machine Learning
Applied Quantum Mechanics
Data and Error Analysis
Radiative Transfer

UNDERGRADUATE
Advanced Partial Differential Equations
Applied Mathematical Modeling
Computational Astrophysics
Unix Tools and Scripting
Linear Algebra

SKILLS

PROGRAMMING
Over 5 years experience:
Python • LaTeX
Over 2 years experience:
C/C++ • C# • PostgreSQL • HTML • Javascript • CSS • Arduino
Familiar:
Java • Android • SQLite

LIBRARY EXPERIENCE
Numpy • Scipy • Matplotlib • Pandas • Bokeh• Scikit-Image • Scikit-Learn • Tensorflow • Keras • Theano • Flask • Requests • Selenium • Beautiful Soup • Kivy • Astropy

EXPERIENCE

DIGITAL DREAMS, LLC | Co-Founder / Manager
Nov 2017 - Present
- Founded a publishing studio for augmented and virtual reality education apps.

RESEARCH

NASA, JET PROPULSION LABORATORY | Research Intern
May 2017 - August 2017 | Pasadena, CA
May 2018 - August 2018 | Pasadena, CA
- Worked on the Exoplanet Discovery and Science team to develop a hardware-software control system interface for an infrared spectrograph.
- The work involved primarily Python and Java to create TCP communication servers/clients to enable cross-hardware communication between servo motors and the instrument software. Along with developing the software to extract and analyze our spectral signal.

LUNAR AND PLANETARY LABORATORY | Teaching Assistant
Aug 2016 – Present | Tucson, AZ
- Worked with Leon Palafox to create the first machine learning algorithm for detecting transiting exoplanets in photometric data from NASA's Kepler mission. Publication Accepted.
- Worked with Caitlin Griffith to observe the atmosphere of a transiting Jupiter-sized exoplanet. I developed a novel data analysis method for ground based transit spectroscopy. Publication Accepted.

NASA, JET PROPULSION LABORATORY | Research Intern
May 2015 - August 2015 | Pasadena, CA
- Worked on the Exoplanet Discovery and Science team to develop a data reduction pipeline for analyzing exoplanet observations from Hubble.
- The work involved primarily Python and image analysis to extract spectral information from the WFC3 instrument on the Hubble Space Telescope.

PUBLICATIONS

- **Pearson, K.A.** , et al., Ground-based Spectroscopy of the Exoplanet XO-2b using a Systematic Wavelength Calibration, 2019, AJ, 157, 1
- **Pearson, K.A.** , Palafox, L, Griffith, C.A., Searching for Exoplanets using Artificial Intelligence, 2018, MNRAS, 10, 1093
- Additional works available in a full author query at adsabs.harvard.edu

AWARDS

2018 LPL Graduate Student Teaching Award
2018 Featured in January edition of BBC Sky at Night magazine
2017 Graduate Teaching Excellence Award
2017 Legal Garage Startup recipient in Emerging Technologies
2017 NIPS Conference Travel Grant
2016 DPS Hartmann Student Travel Grant