# Alex Bixel

abixel@email.arizona.edu (540) 525-3380
LinkedIn Publications Website GitHub

## Overview

Astronomer with 5+ years' experience in independent research. Selected accomplishments:

- Established the data collection strategy and automated processing algorithms for an international research collaboration with 1000+ hours/yr of remote sensing data.
- Currently designing the astronomical testbed for a new type of lens to be used in future ultra-light, ultra-large space telescopes.
- Pioneered target optimization strategies for next-generation NASA space telescopes that could save over a month of observing time ($100M+ added value for a $15B mission).
- Simulated the performance of visible/IR detectors on space telescopes as a function of key design parameters.
- Team lead for a class project to design an orbiter to study the icy plumes and sub-surface ocean of Saturn's moon Enceladus.

## Education

2018 – 2021 ♦ **Ph.D. Astronomy & Astrophysics** at the University of Arizona.
- Dissertation: *Statistical Strategies for Characterizing Habitable Exoplanets*

2016 – 2018 ♦ **M.S. Astronomy & Astrophysics** at the University of Arizona.

2012 – 2016 ♦ **B.A. Astronomy-Physics** at the University of Virginia.
- Graduated with highest distinction.

## Skills

Programming ♦ Proficient in Python, experienced with Linux, and familiar with C++ and MATLAB.

Mission design ♦ Experienced in analyzing and optimizing the performance of space missions, and evaluating critical trades between cost and complexity.

Data analysis ♦ Experienced in analyzing imaging, spectroscopic, and time series datasets, as well as implementing Bayesian and Monte Carlo methods for statistical problems.

Communication ♦ Published 5 first-author and 8 co-authored papers, along with 10+ presentations at scientific conferences and seminars. For a complete list, click here.

## Awards

2021 ♦ **Graduate Scholarship Award**, Astronomy Department, University of Arizona.

2017-2020 ♦ **NASA Earth and Space Sciences Fellowship**, awarded to optimize the performance of next-generation space telescopes.

2016 ♦ **D. Nelson Limber Award** for excellence in astronomy, University of Virginia.

2015 ♦ **Phi Beta Kappa**, University of Virginia chapter member.