MIKHAIL SHAROV

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EDUCATION

Boston University September 2017 - May 2021
B.A. in Astrophysics (Magna Cum Laude) *Boston, MA*

EXPERIENCE

Analysis of Io's Changing Atmosphere in Eclipse September 2018 - May 2021
Data Analyst (Boston University) *Boston, MA*

- Analyzed 10 large data sets taken at 3 telescope sites and developed a Python and IDL reduction pipeline to perform data cleansing and isolate relevant signals for further analysis
- Discovered 3 significant time-dependent trends in Io's atmospheric behavior and formatted the findings into publication quality figures and text for 2 major presentations
- Presented results and facilitated scientific discussion at the Europlanet Science Congress (EPSC) and APO Science Symposium to panels of 30+ professionals

Characterization of CMS HGCAL Prototype Modules February 2020 - August 2020
Data Analyst (CERN) *Geneva, Switzerland*

- Evaluated experimental data of 4 prototype modules' responses to an electron particle beam, including sorting out irrelevant data and selecting characteristics to examine module performance
- Created a critical Python pipeline to apply a Landau-convoluted Gaussian model to describe module behavior
- Collaborated to produce professional reports detailing module performance for leaders of a $950 million project, which will use my pipeline to test and implement future modules

Reduction of False Positive Detection for EXPRES May 2019 - August 2019
Data Analyst (Yale University) *New Haven, CT*

- Operated on data from the new EXPRES instrument to calibrate the instrument for exoplanet detection via analysis of selected subsets of 13 data sets
- Constructed a Python procedure to identify a star's magnetic activity, significantly reducing false positive exoplanet detection
- Integrated the developed calibration procedure to the working, official pipeline of the instrument

PUBLICATIONS, PRESENTATIONS, AND AWARDS

Publications/Presentations

- An ARCES study of Io's Aurora in Jupiter's Shadow (Sharov et al. 2021), APO Science Symposium
- NIM+: an FPGA-based Replacement to Legacy NIM in Test Beams (Sulak et al. 2021)
- An Extreme-precision Radial-velocity Pipeline: First Radial Velocities from EXPRES (Petersburg et al. 2020)
- Io's Optical Airglow in Jovian Eclipse (Sharov et al. 2020), Europlanet Science Congress

Awards

- BU Center for Space Physics Undergraduate Research Award (May 2021)
- Runner up to University-wide Commencement Speaker (April 2021)
- Dorrit Hoffleit Scholarship (2019) - 1 of 2 candidates accepted for the highly prestigious scholarship to perform research at Yale University

RELEVANT SKILLS

Languages	Python, Jupyter, SQL, IDL, VHDL, LaTeX
Data Science and Visualization	Numpy, Pandas, scikit-learn, PyROOT, Matplotlib, Tableau
Software	Microsoft Excel, Powerpoint, Word, GitHub