

Aman Kar

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EDUCATION

M.S. Astronomy, Georgia State University, Atlanta, GA, USA; August 2020 - Present

B.S. Physics, Astronomy & Astrophysics, University of Wyoming, Laramie, WY, USA; August 2015 - May 2019
Computer Science and Mathematics Minors; Physics and Astronomy **GPA: 3.63**, Overall **GPA: 3.62**

Study Abroad (Student Exchange), Swansea University, Swansea, Wales, UK; September 2017 – January 2018
Physics and Computer Science courses. **GPA: 71.5**

Software Proficiency

Python, JAVA, C++, MATLAB, IRAF, MySQL, PostgreSQL, Django, HTML, CSS, PHP

EMPLOYMENT

Data Analyst | MESA Natural Gas Solutions LLC | July 2019 – July 2020

- Develop and improve telemetry designs and build data flow pipelines.
- Provide predictive analysis tools and data analysis models for employees and customers.
- Establish database management procedures and maintenance of the integrity of database servers.

Learning Facilitator & SEO Academic Tutor | University of Wyoming | February 2019 – May 2019

- Provide in-class discussions of study materials for Engineering Physics I (PHYS 1210)
- Provide one-on-one study sessions for students taking courses in STEM fields.

Research Assistant | Red Buttes Observatory (RBO) | University of Wyoming | September 2016 – May 2019

- Perform follow-up observations of transiting exoplanet candidate using a 0.6 m telescope.
- Perform observations of Young Stellar Objects (YSOs) to detect signs of accretion.
- Perform routine maintenance of telescope and observatory's functionalities.

Research Assistant | Green Bank Observatory (GBO) | National Radio Astronomy Observatory (NRAO) | May 2018 - August 2018

- Designed software using C++ and Python to mitigate Radio Frequency Interference using Spectral Kurtosis
- Tested software on archival data from the 100 m Green Bank Telescope and analyzed the effectiveness of the mitigation technique.
- Data set included Pulsar observations and the testing was performed on the frequency domain of the observations.
- Real-time implementation of software in the backend system of GBO

Research Intern | Wyoming Infrared Observatory (WIRO) | University of Wyoming | June 2017 – August 2017

- Understood different observational techniques at Wyoming Infrared Observatory (WIRO)
- Acquired high-precision photometry of transiting exoplanet candidates using a 2.3 m telescope.
- Analyzed astronomical data to help constraint exoplanet properties using Bayesian Statistics.
- Studied the existence of an atmosphere around giant exoplanets.
- Collaborated with a group of 8 undergraduates and were able to take 45 nights of successful observations.

EPSCoR Undergraduate Research Fellow | University of Wyoming | June 2016 – August 2016

- Studied hardware and software functionalities of a 0.6 m telescope at Red Buttes Observatory
- Obtained experience in astronomical data reduction and analysis.
- Tested software to help automate the telescope and to perform scientific observations remotely.
- Presented a research poster at PhysCon 2016 and Wyoming Undergraduates Day 2017.

Concession Worker | Athletic Concessions | University of Wyoming | September 2015 – May 2017

- Excellent communication and customer service skills
- Ability to interact with clients in a professional manner.
- Operate cash register and frequently update all task and inventory reports.

STUDENT LEADERSHIP

Member | LEAD Chair & Chaplain | Sigma Nu Fraternity: Epsilon Delta Chapter | University of Wyoming | September 2018 – May 2019

- Organize leadership development workshops and brotherhood events for all members of the fraternity
- Collaborate with Alumni, Interfraternity Council members and University officials to organize professional development session for all members of the fraternity.

Event Coordinator | Indian Student Association (MILAAP) | University of Wyoming | March 2018 – April 2019

- Organize cultural events to promote diversity and spread awareness on campus
- Collaborate with other cultural organizations and host events like Potlucks and formal dinners.

Associate Zone Councilor | Society of Physics Students (SPS) National Council | September 2018 – May 2019

- Co-Chair of the Outreach Committee on the National Council
- Help provide outreach tools to all SPS Chapters across the country and improve current resources by getting feedback from the Chapter Presidents
- Attended National Council Meeting in Washington, DC to discuss about all SPS Chapters
- Communicate with all chapters in my designated Zone (Wyoming and Colorado) to promote collaboration of Physics related events
- Organize Zone Meetings which involves a conference for all chapters within the Zone to meet in person and exchange ideas about promoting Physics in their community and learn about other Chapters' activities.

Vice President | Society of Physics Students (SPS) | University of Wyoming | September 2016 – May 2017 | May 2018 – May 2019

- Organized on-campus events such as Pi Day and 100 years' celebration of Einstein's Special Relativity.
- Participated in Outreach Programs such as Wyoming Infrared Observatory Open House and public stargazing nights.

Treasurer | Indian Student Association (MILAAP) | University of Wyoming | March 2017 – March 2018

- Handle financial budgetary needs and maintain account collections for the organization.
- Organize fundraising events to help finance cultural shows and formal dinners.

Member | Student Leadership & Community Engagement | University of Wyoming | Sept 2015 – May 2016

- Assisted with multiple community service events like The Big Event
- Developed leadership skills through programs like The First Year Institute.

HONORS and AWARDS

- **Henry and Penelope Bauer Scholarship** | University of Wyoming | Summer 2018
- **Physics Leadership Scholarship** | Society of Physics Students | Spring 2018
- **UniWyo Study Abroad Scholarship** | University of Wyoming | Fall 2017
- **International Student Scholarship** | University of Wyoming | Fall 2016 – Spring 2019
- **Cinnamon Scholarship Award** | University of Wyoming | Fall 2016 – Spring 2017
- **Dean's and Dean's Honor Roll** | University of Wyoming | Spring 2016, Fall 2016 & Spring 2019
- **President's Honor Roll** | University of Wyoming | Fall 2015 & Spring 2017
- **Rocky Mountains Scholarship** | University of Wyoming | Fall 2015 – Spring 2019
- **Top Percentile Scholarship** | St. Xavier's Institution | 2013 & 2015

PUBLICATIONS

- **Kasper, David H.** et al. "A Transmission Spectrum Of HD 189733b From Multiple Broadband Filter Observations." *Monthly Notices of the Royal Astronomical Society*, vol. 483, no. 3, 2018 {Co-Author}
- **Collins, Karen A.** et al. "The KELT Follow-Up Network And Transit False-Positive Catalog: Pre-Vetted False Positives For TESS". *The Astronomical Journal*, vol 156, no. 5, 2018 {Co- Author}
- **Kasper, David H.** et al. "Remote Operations And Nightly Automation Of The Red Buttes Observatory". *Publications Of The Astronomical Society Of The Pacific*, vol 128, no. 968 2016 {Acknowledged / Research Contributed}

POSTER PRESENTATIONS & WORKSHOPS

- **233rd AAS Winter Meeting** | Seattle, WA | ‘RFI Mitigation with Spectral Kurtosis’ | January 2019 | NRAO Travel Grant
- **Undergraduate Research Day 2018** | Laramie, WY | ‘Optical Monitoring of Young Stellar Objects’ | April 2018
- **231st AAS Winter Meeting** | Washington DC | ‘Characterizing Giant Exoplanets: HD 189733b’ | January 2018 | Department of Physics and Astronomy at University of Wyoming Travel Grant
- **KELT Workshop V** | Nashville, TN | 5th Exoplanet Transit Survey Workshop | June 2017 | Department of Physics and Astronomy at University of Wyoming Travel Grant
- **Undergraduate Research Day 2017** | Laramie, WY | ‘Remotely Automated Observations of Transiting Exoplanets’ | April 2017
- **PhysCon 2016** | San Francisco, CA | ‘Remotely Automated Observations of Transiting Exoplanets’ | November 2016 | Society of Physics Students Travel Grant
- **KELT Workshop IV** | Nashville, TN | 4th Exoplanet Transit Survey Workshop | August 2016 | Department of Physics and Astronomy at University of Wyoming Travel Grant

REFERENCES

Chip Kobulnicky

Professor

Department of Physics and Astronomy

University of Wyoming

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Hannah Jang-Condell

Assistant Professor

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