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| **Daniel K. Giles** | 728 W. Fremont Ave.  Sunnyvale, CA 94087  Phone: (425) 985-6885  e-mail: [dgiles1@hawk.iit.edu](mailto:dgiles1@hawk.iit.edu) |

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| **Publications and Abstracts** | ***RotNet*: Fast and Scalable Estimation of Stellar Rotation Periods Using Convolutional Neural Networks**  **FDL Starspots Team**, 2020, *accepted for the Machine Learning and the Physical Sciences Workshop, NeurIPS 2020.*  **Where is Waldo (and his friends)? A comparison of anomaly detection algorithms for time-domain astronomy**  Martínez-Galarza, J.R., Bianco, F., Crake, D., Tirumala, K., Mahabal, A.A., Graham, M. J., **Giles, D.**, 2020, *submitted to MNRAS.*  **Systematic Serendipity: Outlier Scoring for the Kepler Mission**  **Giles, D.**, Walkowicz, L. M., 2020, 499, 524*.*  **Presentation:** **Systematic Serendipity: Automated Anomaly Detection and Prioritization for Large Datasets**  **Giles, D.**, Walkowicz L. M., 2020, *American Astronomical Society*, 235, 232.02.  **Presentation: Systematic Serendipity: A Signal-Agnostic Search for Technosignatures Using Unsupervised Machine Learning**  **Giles, D.**, Walkowicz, L. M., 2019, *Astrobiology Conference*, 308.6.  **Systematic Serendipity: A Test of Unsupervised Machine Learning as a Method for Anomaly Detection**  **Giles, D.**, Walkowicz, L. M., 2019, *MNRAS,* 484, 834.  **Presentation: Systematic Serendipity: A Method to Discover the Anomalous**  **Giles, D.**, Walkowicz L. M., 2018, *American Astronomical Society*, 231, 332.03. |

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| **Education** | **Illinois Institute of Technology, Chicago, IL**  PhD in Physics  Thesis Title: Systematic Serendipity: A Method to Discover Anomalous Astrophysics  Thesis Advisor: Lucianne Walkowicz  **Westminster College, New Wilmington, PA**  B.S. in Physics | *December 2020*  *(thesis defended November 2020)*  May 2012 |

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| **Professional** | **Researcher, Frontier Development Laboratory**  Heliophysics Starspots team  **Teaching Assistant, Illinois Institute of Technology**  Classes: Classical Mechanics, Electricity and Magnetism, Electronics, and Computational Methods  **Tutor, Illinois Institute of Technology, Varsity Tutors**  Subjects: Classical Mechanics, Electricity and Magnetism, Algebra, and Calculus Technical Analyst, The Boeing Company Group: Product Integrity and Safety, Post-production Modifications Teaching Assistant, Westminster College Class: Classical Mechanics | Summer 2020  Fall 2015-Spring 2019  2015-2019  2012-2013  Spring 2012 |

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| **Invited Talks and Roles** | **NASA Technosignatures Workshop, Participant**  Universities Space Research Association  **Decolonizing Mars, Participant**  Library of Congress  **Research Colloquia, Speaker**  Westminster College  **Sigma Pi Sigma, Speaker**  Illinois Institute of Technology  **Scientific English Instructor and Presenter**  Tsinghua University, Institute of Modern Physics  **Detecting the Unexpected, Participant**  Space Telescope Science Institute  **Networking Symposium, Panelist**  Westminster College | Fall 2018  Summer 2018  Spring 2018  Spring 2018  Summer 2016, 2017  Spring 2017  Fall 2015 |

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| **Research** | **Systematic Serendipity, Illinois Institute of Technology and the Adler Planetarium**  Developed an anomaly detection framework to identify outlying data in large, photometric databases  Advisor: Lucianne Walkowicz  **Space Weathering on Meteors, Adler Planetarium**  Investigated the relationship of space weathering and close planetary encounters on the Karin family of meteors  Supervisor: Mark Hammergren  **VERITAS, Adler Planetarium**  Modelled gamma ray production methods from active galactic nuclei for comparison to VERITAS observations  Supervisor: Jeffery Grube  **Sights of a Changing Universe, Westminster College**  Advisor: Thomas Oberst  Presented at URAC (2012, Westminster College, Presentation) and NCUR (2012, Weber State University, Poster) | Fall 2015-*Present*  Spring 2015  Fall 2013-Spring 2015  Fall 2011–Spring 2012 |

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| **Grants and Awards** | **LSSTC Data Science Fellowship Program Fellow**  **Illinois Space Grant Consortium Fellowship**  **Illinois Institute of Technology Research Scholarship**  **Albright Scholarship**  **Young Presbyterian Scholars** | 2017-2019  2016-2019  2013-2014  2009-2012  2009-2012 |

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| **References** | **Dr. Lucianne Walkowicz -** Thesis Research Advisor  Astronomer, The Adler Planetarium  Phone: + 1 (312) 542-2412  Email: [lwalkowicz@adlerplanetarium.org](mailto:lwalkowicz@adlerplanetarium.org)  **Dr. Jeff Terry -** Thesis Committee Chair  Professor, Physics, Illinois Institute of Technology  Phone: +1 (630) 252-9708  Email: [terryj@iit.edu](mailto:terryj@iit.edu)  **Dr. Andrés Muñoz-Jaramillo -** FDL Research Mentor  Senior Research Scientist, SouthWest Research Institute,  Phone: +1 (303) 546-9677  Email: [amunozj@boulder.swri.edu](mailto:amunozj@boulder.swri.edu) |