Paul J. Wright, PhD
e: paul@pauljwright.co.uk **w**: pauljwright.co.uk **in**: linkedin.com/in/pauljwright91 **t**: +1 (xxx)-xxx-xxxx

Machine Learning (ML) Publications

Journal Publications (Physics)

[1] Galvez, R., Fouhey, D. F., Jin, M., Szenicer, A., *et al* 2019. *A Machine Learning Dataset Prepared From the NASA Solar Dynamics Observatory Mission*, *ApJS*[1], 242, 7

[2] Szenicer, A., Fouhey, D. F., Muñoz-Jaramillo, A., **Wright, P. J.**, *et al* 2019. *A Deep Learning Virtual Instrument for Monitoring Extreme UV Solar Spectral Irradiance*, *Science Advances*[2], 5, eaaw6548

[3] **Wright, P. J.**, Cheung, M. C. M., Thomas, R., Galvez, R., *et al* 2019. (*in preparation*). *DeepEM: A Deep Learning Approach to DEM Inversion*

Book Chapters

[4] **Wright, P. J.**, Cheung, M. C. M., Thomas, R., *et al* 2018. *DeepEM: A Deep Learning Approach to DEM Inversion*. In M. Bobra & J. Mason, eds., *Machine Learning, Statistics, and Data Mining for Heliophysics*, Chapter 4

Highlighted Conference Contributions

[5] **Wright, P. J**, Galvez, R., Fouhey, D. F., Jin, M. *et al*, 2019. *A Machine Learning Dataset Prepared From the NASA Solar Dynamics Observatory Mission*, Machine Learning in Heliophysics, Amsterdam, Netherlands

[6] Muñoz-Jaramillo, A., **Wright, P. J**, Diaz Baso, C. J., Asensio Ramos, A., 2019. *Homogenization of 40 Years of Magnetograms Using Convolutional Neural Networks*, Machine Learning in Heliophysics, Amsterdam, Netherlands

[7] **Wright, P. J**, Cheung, M. C. M., Galvez, R., Thomas, R. *et al*, 2019. *DeepEM: A Deep Learning Approach to DEM Inversion*, Machine Learning in Heliophysics, Amsterdam, Netherlands

[8] Cheung, M. C. M., Muñoz-Jaramillo, A., **Wright, P. J.**, Bhatt A., *et al*, 2019. *Cloud Computing at NASA's Frontier Development Lab*, Next Generation Cloud Research Infrastructure, Princeton, NJ, United States

[9] **Wright, P. J.**, & NASA FDL 2019. *An Overview of the NASA Frontier Development Lab 2019: An Applied Artificial Intelligence Accelerator*, in Machine Learning for Planetary Science at AGU 2019, San Francisco, CA, United States (invited)

[10] **Wright, P. J.**, Gitiaux, X.[†], Jungbluth, A.[†], Maloney, S.[†] *et al*, 2019. *Super-Resolution Maps of the Solar Magnetic Field Covering 40 Years of Space Weather Events*, in Machine Learning in Space Weather at AGU 2019, San Francisco, CA, United States

NeurIPS Workshop Papers

[11] Jungbluth, A.[†], Gitiaux, X.[†], Maloney, S.[†], Shneider, C.[†], **Wright, P. J.**, *et al*, 2019. *Single-Frame Super-Resolution of Solar Magnetograms: Investigating Physics-Based Metrics & Losses*, in 33rd Neural Information Processing Systems (NeurIPS) workshop on Machine Learning in Physical Sciences, Vancouver, Canada, 2019

[12] Gitiaux, X.[†], Maloney, S.[†], Shneider, C.[†], Jungbluth, A.[†], **Wright, P. J.**, *et al*, 2019. *Probabilistic Super-Resolution of Solar Magnetograms: Generating Many Explanations and Measuring Uncertainties*, in 33rd Neural Information Processing Systems (NeurIPS) workshop on Bayesian Deep Learning, Vancouver, Canada, 2019

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[1] Impact Factor: 8.311 (2018)
[2] Impact Factor: 12.804 (2018)
[†] Advised/Mentored as part of the NASA Frontier Development Lab (FDL) 2019