Ajay Tiwari

Post-doc,
Machine learning
in Space Weather

- November 1, 2020
- CWI, Science Park 123, 1098 XG, Amsterdam
- https://ajaytiwari.xyz
- ajaynnld13@gmail.com
- Cis-Indian-Male(he/him)

Social Network

- @ajeytiwary
- Github
- Ajay Tiwari

Languages

English	● ● ● ● ●
Hindi	● ● ● ● ●

Hard Skills

- 💻 Programming ● ● ● ●
  - </> Python, IDL, MATLAB, Fortran
- 🎓 Machine Learning
  - NLP, Feature engineering, Regression analysis
- Data Visualisation

Soft Skills

- Leadership
  - Leading a collaboration spread across various countries
- Communication

Working Experience

currently	**Postdoc**	Researcher
	Machine learning in space weather	
2017 – 2020	**Post Graduate Researcher**	Northumbria University
	Doctoral thesis on the waves in the solar corona	
2017 – 2019	**Demonstrator II**	Northumbria University
	Taught first year undergraduate mathematics .	

Education

Research Experience

2018	**Visiting Researcher**	KU Leuven
	On simulating the damping of propagating kink waves in solar corona.	
January-November 2016	**MS Thesis**	IIA, Bangalore
	On the study of Waves in solar corona, with Prof. Dipankar Banerjee	

Study

2011 – 2016	**BS-MS**	IISER Pune
	Focus: Magnetohydrodynamic waves in the solar atmosphere.	
2016	**MS Theses ($\varnothing 1, 0$)**	IIA, Bangalore
	Studying the MHD waves in the solar corona and as a part of my thesis detected first imaging observations of standing slow wave in coronal fan loops.	

Publications

2020	**Accepted paper: Unsupervised automated detection of coronal holes**
	Machine learning for physical sciences, NeuRIPS
2019	**Damping of Propagating Kink Waves in the Solar Corona**
	Ajay K Tiwari, Richard J Morton, Stéphane Régnier, James A McLaughlin
	The Astrophysical Journal
2017	**First imaging observation of standing slow wave in coronal fan loops**
	Vaibhav Pant, Ajay Tiwari, D Yuan, Dipankar Banerjee
	The Astrophysical Journal Letters

Awards

2019	Project Provider	Nuffield Foundation

Extra-Curricular Activities

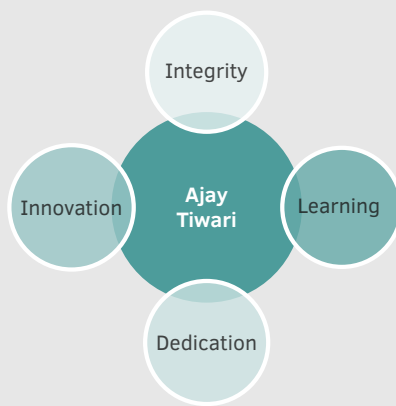|	
Relaxing	Learning about history and politics, reading books
Sports	Badminton and running

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About Me ────────

A data aficionado by heart. I am interested in anything related to data and data analysis. As a self-proclaimed biologist by heart and a space physicist by profession I look for opportunities to learn and transfer methods from one field to the other.

Me ────────

Memberships ────────

Royal Astronomical Society

EUropean Astronomical Society

Computational Skills

Techniques	Machine learning, Image processing, Computer vision, Bayesian statistics, Time series analysis
Packages	pandas, statsmodels, emcee, Numpy, Astropy, Tensorflow, Gausian mixture models, Pytorch, matplotlib, seaborne
Tools	python , LaTeX, OpenOffice, Unix, Linux, Microsoft Office
Courses	Computational Physics, Scientific Computing
Others	IDL, Matlab, Fortran, HTML5

Conferences

Attended	Deep Learnign for science, Lawrence Berkeley National Laboratory, Berkeley, CA, online, July - September, 2020
Attended	Virtual Astrohackweek 2020, 31-04 Spetember, 2020
Attended	Virtual Heliohackweek 2020, NASA Center for Climate Simulation and NIVIDIA, online, 20-28 August, 2020
Attended	AstroHackWeek 2019, Kavli Institute for Cosmology, Cambridge University in Cambridge, 26-30 August, 2019
Attended	Poster presentation, National Astronomy Meeting 2019, Lancaster University, 30-4 July 2019
Attended	Contributed talk, Loops 9, University of St. Andrews, 11-14 June 2019
Loops 9	Created the conference word cloud and performed sentiment analysis of the tweets with the conference hashtag
Attended	Contributed talk at the STFC Advanced Summer School in Solar, Solar-Terrestrial and Solar-Planetary Physics, 9-14 September 2018, University of Southampton
Attended	European Week in Astronomy and Space Sciences, 2018, Liverpool John Moors University, United Kingdom, 03-06 April 2018
Attended	Contributed talk at International Space Science Institute meeting, Bern, Switzerland, 02-06 July 2018
Attended	Contributed talk at the Dynamic Sun II, Cambodia, 12-16 February 2018
Attended	Poster presentation at RAS Specialist meeting on Wave heating of Corona, London, January 12, 2018
Attended	STFC Introductory Summer School in Solar Physics, Northumbria university, 10-15 September 2017
Attended	Oral talk at BSA Newcastle SciBar, 21 July 2017
Attended	13th PENCIL code users meeting at Newcastle University, 10-14 July 2017
Attended	Poster Presentation at UKMHD 2017, Durham University, 20-21 April 2017
Attended	The SCOSTEP/ISWI International School on Space Science, Sangali, November 7-17, 2016
Attended	IRIS 5 Workshop, at IUCAA, Pune, October 26-29, 2015
Attended	The in-house mini course on Time Series Econometrics, IISER Pune, September 29- October 2, 2015
Attended	*Astronomical Society of India, ASI 2015*, NCRA, February 17-20, 2015
Attended	Workshop on *Advances in Mathematical Biology*, ICTS-IISER PUNE-PIMS CANADA, December 7-16, 2014