



COST ACTION CA17137
A NETWORK FOR GRAVITATIONAL
WAVES, GEOPHYSICS AND
MACHINE LEARNING

G2net Outreach and Communication activities

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(Science Communication Manager)

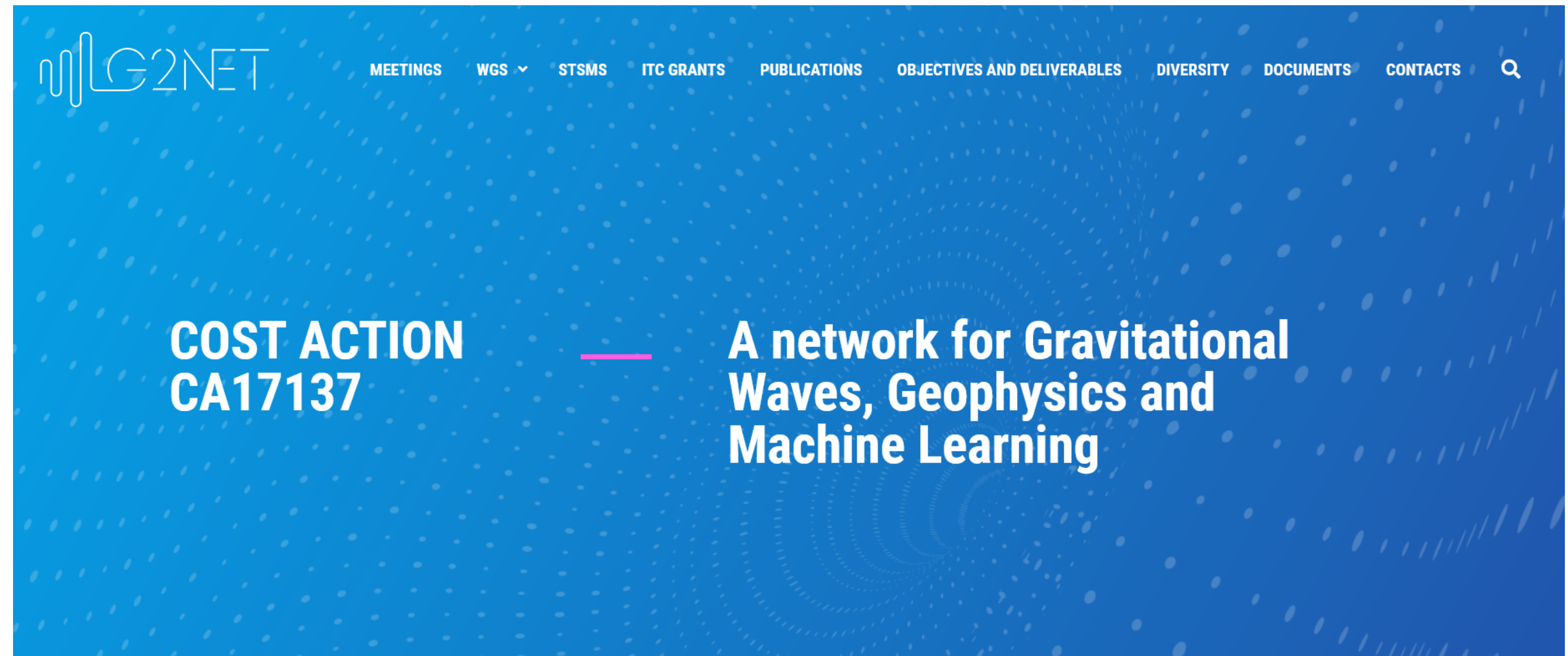
Machine Learning in GW search: G2net next challenges, 28-30 Sep, 2022

Web page (regularly updated)

27 COST Participation Countries
+ 2 COST International Partner Countries

Webpage items:

- Meetings (including conferences, schools and webinars),
- Dedicated pages for each of the 3 Wgs.
- STSMs (3rd call open!) → to be updated – new rules.
- ITC Grants.
- VNT Grants.
- Publications.
- Objective and deliverables.
- Diversity
- Documents: COST Vademecum.
- Contacts.



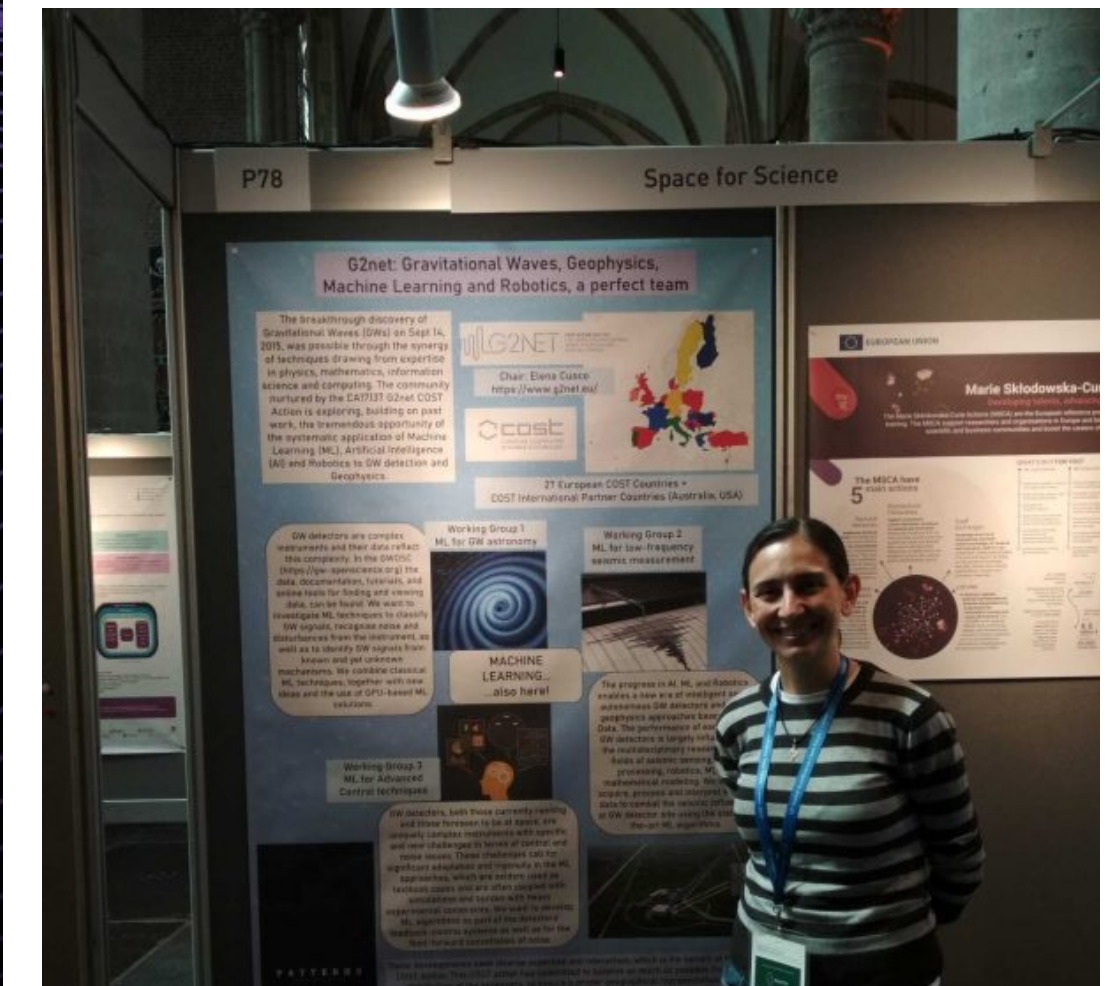
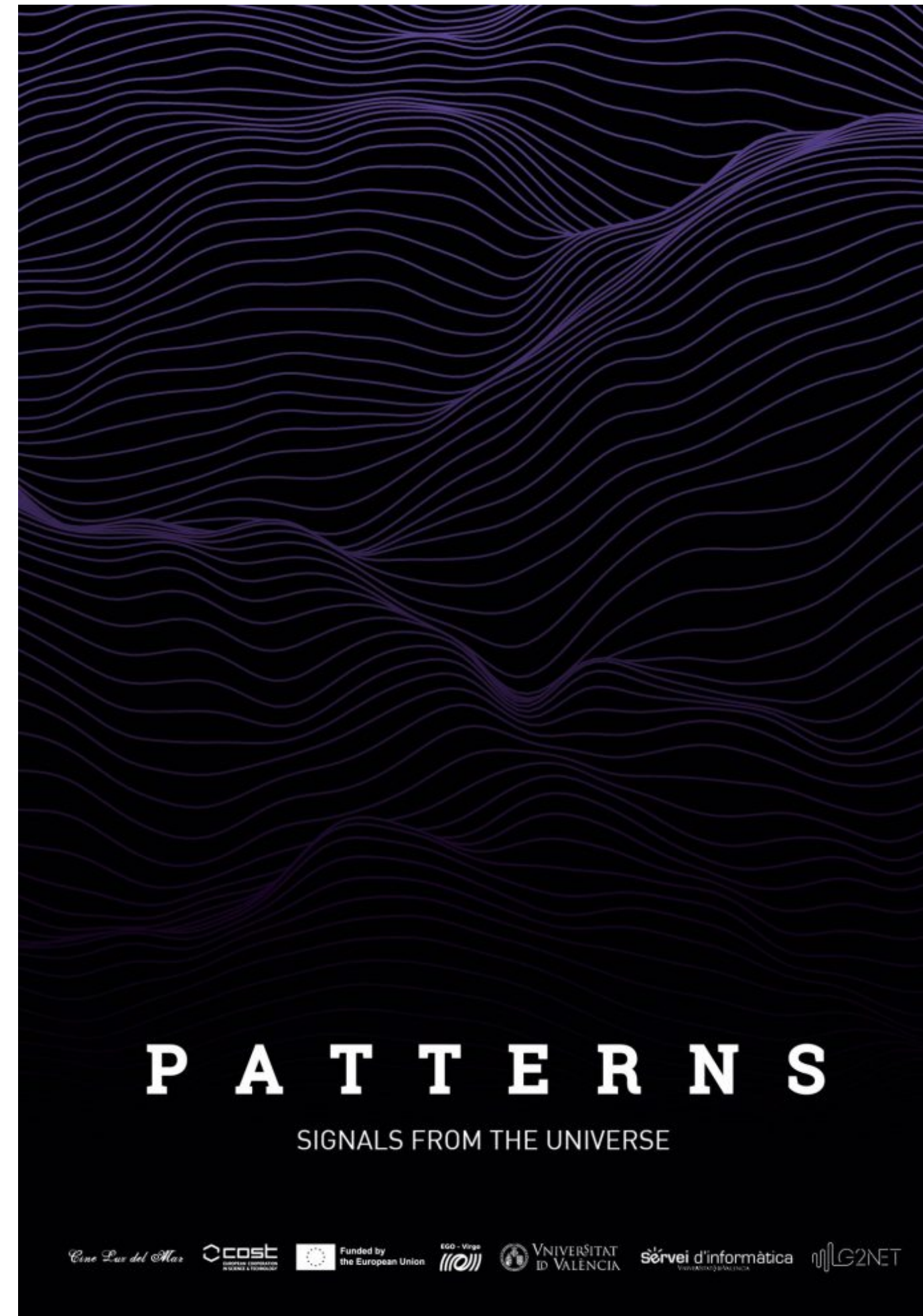
In general, **more input** of G2net activities is very welcome!

New item: **Dissemination**

Web page (regularly updated)

New item: **Dissemination:**

- Dissemination conference grant.
- Approved DCG: 'Space for Science' poster theme, EuroScience Open Forum (ESOF2022), Leiden (Netherlands).
 - Senior policy officer Adrien Braem, Science Europe platform.
 - Programme manager Sean Sapcariu, Luxembourg National Research Fund.
 - Spanish science communication agency AGATA.
- News in media about G2net: Participation of the researcher İsmail Kirbas (Turkey) in the Glasgow G2net science and innovation meeting in July, 2022.
- Materials: Short movie 'Patterns, Signals from the Universe'.



Patterns short movie

- Contents of the G2net COST Action + storytelling. We pass the Bechdel test. G2net members are very present!
- Private premier in Valencia (Spain), April 2022, followed by a round table – WG1 conference.
- Participation in festivals and make it public in the G2net webpage afterwards. Possible Making of with extra details.
- Interview by Dones a l'ombra (Women on shadow): <https://donesalombra.wixsite.com/donesalombra>
- Music composer Víctor Marco has been awarded the orchestral composition contest in Benabarre (Spain).
- Contact with science and theater festival in Zaragoza (Spain).
- Future plans: Private premiers in Alicante, Madrid.



Web page (regularly updated)

New item: **Dissemination:**

- Materials:
- To be included in a near future:

Luigia's introductory ML course:
luigianotes.wordpress.com/2021/03/04/machine-learning-course/

Validated with a Final Degree Project of Paula Pons Muñoz (graduated student in Mathematics Faculty of the University of Valencia), in Valencian, most of the contents of the course.

Application of a VNT grant.

Future plans: Extension to the whole course and translation to English with FDP of other student. Potential application of a VNT grant in the final G2net Grant Period.



Treball Fi de Grau - Curs 2021/ 2022

Introducció a tècniques de Machine Learning

Algorismes d'ajust i classificació

Autora: Paula Pons Muñoz

Tutora: ISABEL CORDERO CARRIÓN

 **Facultat de Ciències Matemàtiques**

Grau en Matemàtiques

El material que hem tingut a l'abast per realitzar aquest treball ha estat facilitat i organitzat al curs de la professora Luigia Petre, doctorada en 2005 en Ciències de la Computació en la facultat de Matemàtiques i Ciències Naturals de la Universitat Åbo Akademi (Finlàndia). Actualment és professora en Ciències de la Computació amb un enfocament en xarxes neuronals des de 2012.

Social networks

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results, events, calls...

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**G2NET**
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This is just AMAZING! Congratulations!! ✨

**Machine Learning: Science and Technology** @MLSTjournal · 18 jun.
NOW >7000 DOWNLOADS! 🎉 'Enhancing #gravitationalwave science with #machinelearning' by @ElenaCuoco @JadePowell12 @Alberto_Iess @filipmor92 @gw_hunter @l_haegel et al @LIGO @ego_virgo @maxplanckpress @g2_net bit.ly/33zHOo8 #astrophysics #cosmology #datascience #AI #HPC

 Publishing

Mach. Learn.: Sci. Technol. 2 (2021) 011002

<https://doi.org/10.1088/2632-2153/abb93a>

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MACHINE LEARNING
Science and Technology

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TOPICAL REVIEW

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OPEN ACCESS

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7 May 2020

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31 July 2020

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16 September 2020

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1 December 2020

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Enhancing gravitational-wave science with machine learning

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Elena Cuoco^{1,2,3}, Jade Powell⁴, Marco Cavaglia⁵, Kendall Ackley^{6,7}, Michal Bejger⁸, Chayan Chatterjee^{7,9}, Michael Coughlin^{10,11}, Scott Coughlin¹², Paul Easter^{6,7}, Reed Essick¹³, Hunter Gabbard¹⁴, Timothy Gebhard^{15,16}, Shaon Ghosh¹⁷, Leila Haegel¹⁸, Alberto Iess^{19,20}, David Keitel²¹, Zsuzsa Márka²², Szabolcs Márka²³, Filip Morawski²⁴, Tri Nguyen²⁴, Rich Ormiston²⁵, Michael Pürrer²⁶, Massimiliano Razzano^{3,27}, Kai Staats¹², Gabriele Vajente¹⁰ and Daniel Williams¹⁴

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Many more things can be done...

input very welcome!

→ Proposal of robotics in GW and geophysics future dissemination activities.

→ Help in promoting news in media and in writing press releases.

→ Kaggle competition item in the webpage (?)

