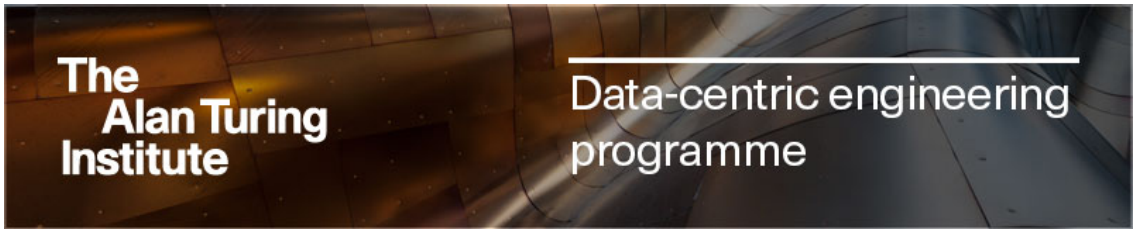
DCE Community Update January 2024

DCE Programme <dceprogramme@turing.ac.uk>

Wed 31/01/2024 5:13 PM

To:Alice Budden <abudden@turing.ac.uk>



If you're a Turing Slack user follow #data-centric-eng for information and reminders about DCE activity between these monthly updates. To submit any items in future updates please contact Alice Budden.

News

AI UK 2024

19-20 March 2024

Don't miss the chance to grab your ticket to this years AI UK!

The diverse programme has been thematically structured around the latest innovations from across the AI ecosystem. With a broad range of interactive content, expect to hear the latest thinking on fundamental AI, digital twins, algorithmic bias, AI ethics, and much more!

100+ Speakers | 50+ Sessions | 2000+ Attendees

The Data-Centric Engineering Programme are contributing to several aspects of AI UK 2024, including workshops, demonstrations stands, and lightening talks. So make sure to come along and get involved! For more information on the full programme, list of invited speakers, and how to secure your place, follow the links here.

AI for Decarbonisation Virtual Centre of Excellence - ADViCE

The ADViCE Programme, is aimed at the development of innovative artificial intelligence technologies for decarbonisation applications to support the transition to Net Zero. This programme, a collaboration between Digital Catapult, Energy Systems Catapult, and The Alan Turing Institute, was officially launched last month and has already produced two complimentary reports:

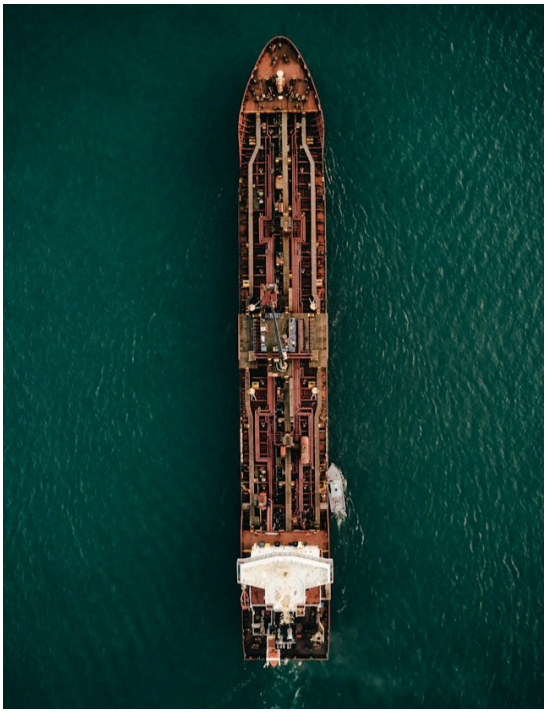
- AI for Decarbonisation Ecosystem - Outlining the current UK landscape for AI and its uses for decarbonisation
- AI for Decarbonisation Challenges - Identifying the strategic and priority challenges for AI innovation for decarbonisation

The ADViCE consortium will be delivering a range of activites, including webinars and working groups, to facilitate the necessary discussion that will accelerate the adoption of AI for decarbonisation solutions. To be a part of the conversation and hear more about future activities and events under this programme, make sure to register your interest.

The UK's Academic Capacity & Capability for Shipbuilding

Maritime Research and Innovation UK (MarRI-UK) announced the publication of The UK's Academic Capacity and Capability for Shipbuilding Report. This project, funded by the National Shipbuilding Office (NSO), saw contributions from several partner institutions including The Alan Turing Institute's DCE Programme.

The purpose of this report is to provide an insight into the UK's current research capabilities, understand what other nations are doing, and provide a series of recommendations to industry and government for enhanced competitiveness.



Greater than the Sum of their Parts: Merging Green Technologies

An article published in The Naval Architect investigates the effectiveness of combining green technologies on fuel saving in the shipping industry, a collaboration between University of Southampton, Arcsilea, Shell, Theyr, and The Alan Turing Institute.

They investigated the combination of Just Add Water System (JAWS), which predicts the optimum draft and trim of a vessel for any given speed, and the Theyr Voyage Optimisation Solution (T-VOS), which is a voyage optimisation software. The researchers found a huge increase of up to x1.5 on fuel savings when these green technologies were used together rather than in isolation.

Follow the link to read the full article.

The Data-Centric Engineering Community

One of the core strategic pillars of DCE 2.0 is focused around community building, to consolidate the successes and gains from phase one of the strategic partnership with the Lloyds Register Foundation by driving greater connectivity across the national and international DCE community.

To facilitate this, the DCE Programme has now developed a community repository for all things Data-Centric Engineering. Here you will find an abundance of information and relevant documentation about the developing DCE Community. Head over to the repository to find out more about:

DCE's Vision | DCE's Strategy | How to get involved? | Key Contacts

---

Events

AI UK Fringe Event | Latest Developments in Physics-Informed Machine Learning

18 March 2024, 13.00-18.00

This workshop, jointly organised by The Alan Turing Institute, Imperial College London, and Leeds University, will delve into all the latest developments in Physics-Informed Machine Learning. There will also be a Poster Competition during the workshop, the deadline for submitting a poster abstract is 1 March 2024.

This event is first come first served, so make sure to secure your place now!

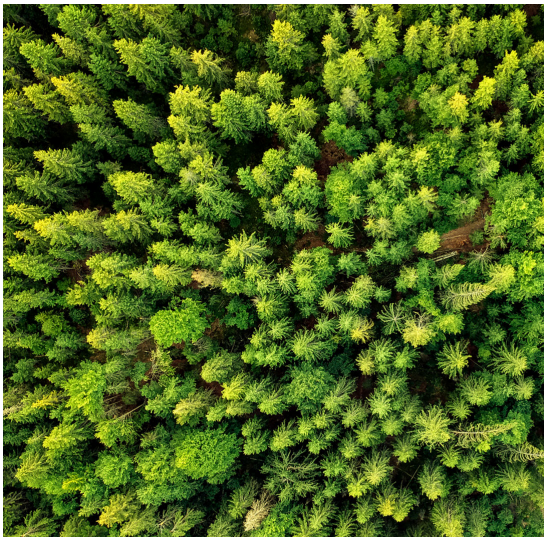
Data Study Group

13 May - 24 May 2024

Data Study Groups are intensive 'collaborative hackathons' where researchers come together to brainstorm and engineer data science solutions to real world problems.

Theyr, a voyage optimisation solutions company, have submitted a Challenge to May's DSG entitled: 'Using explainable AI to improve user trust and adoption in maritime routing'. This challenge aims to improve user confidence when using a commercial autonomous system for shipping voyage routing. Participants will investigate how to interpret decisions made by these autonomous systems, how to communicate this to end-users, while also considering user preferences.

To register and read the full list of challenges, head over to the May Data Study Group event page.



Climate Informatics 2024

22 April - 24 April 2024

This conference hosted by The Alan Turing Institute combines climate sciecne with approaches from statistics, machine learning, and data mining.

To submit your research for presentation at this conference, or to submit a proposal for a panel discussion, follow the link here.

Submission deadline 9 February 2024.

Registration opens on 26 February 2024, so be sure to keep an eye on the main website for more information and upcoming registration.

Seminars

Physics-informed Machine Learning (Φ-ML) Meets Engineering Seminar Series: upcoming dates (online)

1 February, 13:00-14:00 - Ameya D. Jagtap, Enhancing Scientific Computing Through Physics-Informed Neural Networks

15 February, 13:00-14:00 - Sascha Ranftl, A Connection Between Probability, Physics and Neural Networks

How to join, talk abstracts, and details on future seminars can be found on the seminar webpage. If you missed a talk that peaked your interest, be sure to check out YouTube where you'll find several recordings of past presentations from this series available to watch back.

Publications

Data-Centric Engineering Journal

Publication Highlight

Evaluation of global sensitivity analysis methods for computational structural mechanics problems - *November 2023*

Cody R. Crusenberry, Adam J Sobey, and Stephanie C. TerMaath

The lack of practical guidance for nonexperts and general users when selecting candidate global sensitivity analysis (GSA) methods promotes the use of inadequate or inefficient approaches for a given workflow, such as the implementation of local methods on nonlinear problems or a higher order effects study when only identification of dominant parameters is required. Using an inadequate GSA method can result in the introduction of error, inconclusive results, and the use of unnecessarily high or inaccurately low datasets. Our objective is to inform a nonexpert user in GSA method selection and best practices for structural mechanics based on modeling and analysis attributes. This article is written from a practical viewpoint.

To read the full open access article follow the link here.

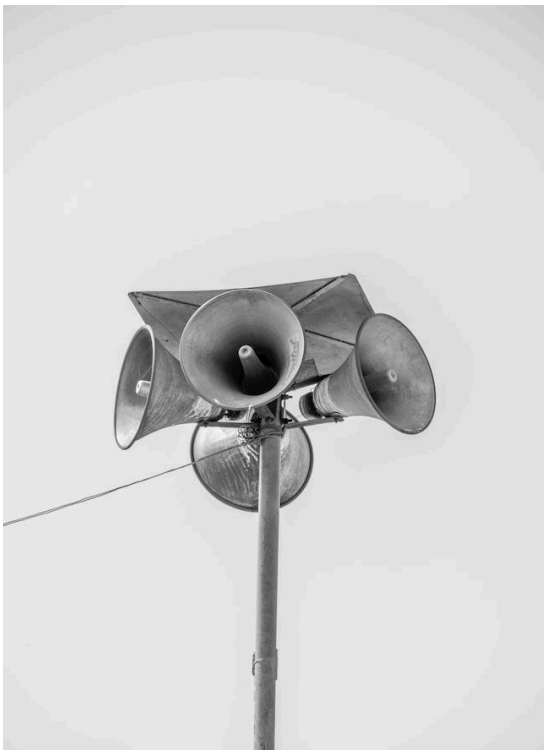
Call for Papers!

Emerging Trends and Concepts for Future Automotive Electronics and Software. *Deadline 31 July 2024*

The Data-Centric Engineering journal is delighted to be collaborating with the organisers of The Alan Turing Institute workshop on Future of Automotive Electronics and Software: Towards a Research Roadmap that took place in November 2023.

This special collection will embrace disciplinary areas across computer science and AI, engineering sciences, economics, human factors and user-centred design, policy and governance.

Follow the links for more information on topics of interest and other open calls for papers.



Jobs

DCE jobs at the Turing

There are currently no vacancies on the DCE programme at the Turing. Please check the Careers website for vacancies on the business team or within other programmes.

DCE jobs elsewhere

Please e-mail Alice Budden with any external opportunities you wish to be circulated in future DCE Newsletters.

Notifications

Communicating about your project

The DCE programme is always looking to communicate the impact of its projects and research activity. If your project is achieving some interesting real-world applications or impact, and you are interested in developing this further, please contact Francisco Gomez Medina, DCE's Research Application Manager.

If you are interested in communicating your research to a wider audience, or would like more information on ways to get involved with the DCE Community, please contact Gabin Kayumbi, DCE's Senior Community Manager.

The Turing hosts a Blog and a Podcast and publishes regular Impact Stories on activity. The Turing Communications team can also help support you on any related media activity.

Attribution in Publications

A reminder that all publications resulting from work on the programme should acknowledge the Lloyd's Register Foundation and The Alan Turing Institute Data-Centric Engineering Programme. More detailed information can be found under 'Acknowledging the Turing in Publications' on the Turing Intranet, or by contacting publications@turing.ac.uk.

British Library
96 Euston Road
London
NW1 2DB
turing.ac.uk