



Machine Learning Theme Workshop

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Who are we?



- N8 Research Partnership is the 8 most research intensive universities in the North of England – Durham, Lancaster, Leeds, Liverpool, Manchester, Newcastle, Sheffield and York
- N8 Centre of Excellence for Computationally Intensive Research (N8 CIR)
 - Derived from N8 HPC which offered access to a shared compute platform for all 8 universities for 6 years.
 - Established to build on this partnership to expand the *art of the possible* within research themes by leveraging computational- and data-intensive practice.



N8 CIR Aims

- Develop skills across the partner organisations
- Develop shared software
- Facilitate access to computational resources
- Leverage funding for computationally intensive research
- Help “non-traditional” users access computational resources
- Accelerate research!

Themes

- Machine Learning
- Digital Health
- Digital Humanities
- Research Software Engineers
- Research Infrastructure Engineers



Practitioner-led approach

- Important not to re-invent the wheel – leverage what is already out there.
- Provide signposting & mechanism to share resources.
- Inspire researchers to embrace new methods through practitioner-led activity
 - Provide forums for researchers to highlight their computational methods.
 - Online researcher showcase videos
 - Workshops and facilitated discussion
 - Capture domain-specific examples to enhance existing material.
- Coordinate initiatives to train the trainer
- Help bring training available outside of the region, into the region

Bede – Tier 2 HPC



- Tier 2 supercomputer delivered in early 2020
- Comprised of 32 IBM Power 9 dual-CPU nodes, each with 4 NVIDIA V100 GPUs and high performance interconnect <https://n8cir.org.uk/supporting-research/facilities/bede/hardware/>
- Ideal for Machine Learning
- All N8 researchers can apply for access to Bede
- Research Software Engineer support available at each institution to help you get started
- For more information and to apply - <https://n8cir.org.uk/supporting-research/facilities/bede/>

Machine Learning Theme Launch



Nominated Theme Lead at your institution

Dr Christopher Nemeth, Senior Lecturer in Statistics, Department of Mathematics and Statistics

Purpose of these workshops

- Build an active theme in Machine Learning across N8
- To identify common challenges in the uptake and use of Machine Learning across N8 institutions
- Develop knowledge exchange, exchange of best practice and provide upskilling for researchers in the area of Machine Learning

What happens next?

- Feedback will be gathered from all 8 institutions
- A draft roadmap will be created and then sent to the theme leads for comments and approval
- A Machine Learning roadmap will be presented to the N8 Strategic Executive Group (SEG) in March

Questions!

1. Hardware

Do you have access to appropriate hardware to carry out Machine Learning (ML)?

- If not what hardware would you like to see made available?

If you have access to suitable hardware, is it set up appropriately?

- If not what needs to change?

2. Data

Do you feel you have the skills required to handle the data for ML?

Are the relevant data sets available?

- If so are they suitable for use in ML?

Questions!

3. Training

Do you feel you could benefit from training in ML techniques?

- If so what topics / skills would be of interest?

Would you benefit from case studies of the application of ML within your research area?

- If so what areas should we cover?

4. Community Building Across N8

What sort of activities would you like to see take place?

- Show and tells, vendor technology updates, working groups in specific areas or topics?

5. Anything else!

What other barriers are there to your ML-based research?

- Software?

Keep In Touch



- Website – <https://n8cir.org.uk/>
- Bede - <https://n8cir.org.uk/bede/>
- Twitter - @N8CIR
- Join our mailing list at <https://n8cir.org.uk/contact/>

