University of Nottingham
UK | CHINA | MALAYSIA

# Role profile

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| Job title | Interdisciplinary Research Associate/Fellow – Data Science | Job family and level | Research and Teaching Level 4 (Appointment will be Level 4 Career training grade where an appointment is made before PhD has been completed) |
| School/ Department | Institute for Advanced Manufacturing | Location | Jubilee Campus, Nottingham |

## Purpose of role

This role is part of the Institute for Advanced Manufacturing's research programme into state-of-the-art innovations in data science, data analytics and machine learning, and application of these to industrially-relevant manufacturing engineering problems.

The role holder will manage and contribute towards the delivery of specific research tasks and work closely with other colleagues from the Faculty of Engineering on projects as directed, with some focussing on fundamental scientific development, and others being industrially-led projects developing research to be ready for implementation.

| | Main responsibilities<br>(Primary accountabilities and responsibilities expected to fulfil the role) | **% time per year** |
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| 1 | **Research Activities**<br>▪ Use scientific literature and previous research experience to develop and implement novel data analytics and machine learning approaches and techniques applicable to scientific and industrial manufacturing challenges.<br>▪ Interact with academic and industrial partners on projects, collaborate on research, and participate in relevant meetings.<br>▪ Some travel within the UK (and possibly the EU) to visit project partners' sites will be required. | 75% |
| 2 | **Publications and Dissemination**<br>▪ Write high quality research reports and papers in order to disseminate research results and develop a track record of published research findings in internationally respected peer-reviewed journals and conferences.<br>▪ Further dissemination of results through oral and poster presentations at national and international meetings, conferences and seminars, and public outreach. | 20% |
| 3 | **Other**<br>▪ Any other duties appropriate to the grade and role. | 5% |

## Person specification

| | Essential | Desirable |
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| **Skills** | ▪ Proficiency in at least one relevant programming language such as Python or R.<br>▪ Excellent interpersonal skills:<br>  ○ Strong written and verbal communication skills,<br>  ○ Active listening skills,<br>  ○ Strong team player.<br>▪ Excellent organisation and time management skills with and attention to detail and a proven ability to work to tight deadlines. | ▪ Cloud computing, particularly cloud-based data capture and analysis.<br>▪ Statistical analysis, particularly of time-series data. |
| **Knowledge and experience** | ▪ Experience of undertaking research in engineering or computer science, including a record of research publications<br>▪ Knowledge of data analytics and machine learning algorithms such as Tensorflow or Keras. | ▪ Experience with the application of data analytics and/or machine learning methods to engineering or industrial data.<br>▪ Experience of visualisation of data using libraries such as matplotlib, bokeh, Shiny, or ggplot.<br>▪ Experience of manufacturing systems engineering, including manufacturing systems architectures, PLC control, and programming of industrial PCs.<br>▪ Experience of working on large research projects with multiple partners. |
| **Qualifications, certification and training (relevant to role)** | ▪ PhD (or about to obtain) in computer science, data science, industrial engineering or a related engineering or computing discipline with a specialisation in data | |

Athena SWAN Silver Award

The University of Nottingham is focused on embedding equality, diversity and inclusion in all that we do. As part of this, we welcome a diverse population to join our work force and therefore encourage applicants from all communities, particularly those with protected characteristics under the Equality Act 2010.

## Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University's strategy, vision and values. The following are essential to the role:

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| **Valuing people** | Is friendly, engaging and receptive, putting others at ease. Actively listens to others and goes out of way to ensure people feel valued, developed and supported. |
| **Taking ownership** | Is clear on what needs to be done encouraging others to take ownership. Takes action when required, being mindful of important aspects such as Health & Safety, Equality, Diversity & Inclusion, and other considerations. |
| **Forward thinking** | Drives the development, sharing and implementation of new ideas and improvements to support strategic objectives. Engages others in the improvement process. |
| **Professional pride** | Is professional in approach and style, setting an example to others; strives to demonstrate excellence through development of self, others and effective working practices. |
| **Always inclusive** | Builds effective working relationships, recognising and including the contribution of others; promotes inclusion and inclusive practices within own work area. |

## Key relationships with others