

Job title	Marie Skłodowska-Curie Research Fellow in Machine Learning for Digital Manufacturing	Job family and level	Research and Teaching off-scale
School/ Department	Faculty of Engineering – Institute for Advanced Manufacturing	Location	Jubilee Campus, University of Nottingham

Purpose of role

The purpose of this role is to conduct research in the area of Industry 4.0 and participate in a European network and training programme to support the role holder in becoming a leader in digital manufacturing. The role will be undertaken within the framework of the Marie Skłodowska-Curie “DiManD: Digital Manufacturing and Design” European Training Network (ETN). Specifically, this post will focus on the implementation of Machine Learning (ML) methods for intelligent manufacturing control systems, specifically in the development of control systems that can capture changes in the environment and can react and adapt to those changes.

	Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role)	% time per year
1	Research <ul style="list-style-type: none"> Undertake research of international excellence on Self-learning for Optimum Manufacturing Equipment (Individual & Collective Response) Collaborate with other ESRs in the DiManD programme on a collaborative demonstration platform. Deploy research to the collaborative demonstration platform at the University of Nottingham Write up PhD thesis. 	60%
2	Training <ul style="list-style-type: none"> Undertake secondments in up to 4 national and international institutions over the course of the project for additional training and development. Attend DiManD training schools on key digital manufacturing topics. Undertake self-driven training to ensure you are fully equipped to conduct the world-class research expected, including selecting and attending additional training courses. 	25%
3	Dissemination <ul style="list-style-type: none"> Communicate your research results in high-quality papers submitted to world-leading journals in relevant areas. Travel to conferences around the world to present your research to the international community. Participate in outreach and public engagement activities. 	10%

4	Other <ul style="list-style-type: none"> Any other duties appropriate to the role 	5%
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Person specification

	Essential	Desirable
Skills	<ul style="list-style-type: none"> Excellent programming skills, with basic understanding of object-oriented programming. Excellent communication skills, both oral and written. Excellent interpersonal skills, an ability to work in a team, and to work with people in other institutions and countries. Ability to work without direct supervision, manage own workload and meet deadlines under pressure and manage competing priorities. Attention to detail. 	<ul style="list-style-type: none"> Agent oriented programming.
Knowledge and experience	<ul style="list-style-type: none"> Knowledge and practical experience in at least one of the following ML techniques: <ul style="list-style-type: none"> Neural Networks SVMs Decision Trees, Random Forests. Basic understanding of control systems. Demonstrable experience successfully delivering projects in a team. 	<ul style="list-style-type: none"> Practical experience in Reinforcement Learning Practical experience in Deep Learning Ability to produce scientific outputs for publication in peer reviewed journals
Qualifications, certification and training (relevant to role)	<ul style="list-style-type: none"> A bachelors or masters (or equivalent) in Computer Science or similar relevant subject. 	.
Statutory, legal or special requirements	<ul style="list-style-type: none"> Candidates must meet the Marie Skłodowska-Curie Early Stage Researcher eligibility criteria. http://ec.europa.eu/research/mariecurieactions ESR eligibility criteria includes: 	

	<ul style="list-style-type: none"> ○ Must be within the first 4 years of their research career. ○ Must not already hold a PhD. ○ Must not have resided in the UK for more than 12 months in the last 3 years. <ul style="list-style-type: none"> ▪ Non-native English speakers are required to provide evidence of English language competency before the appointment is made. An IELTS score of 6.5, or equivalent, is the minimum requirement. ▪ Ability to live in the UK, and ability to travel to other countries for multiple-month durations for DiManD events and secondments. 	
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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:

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



