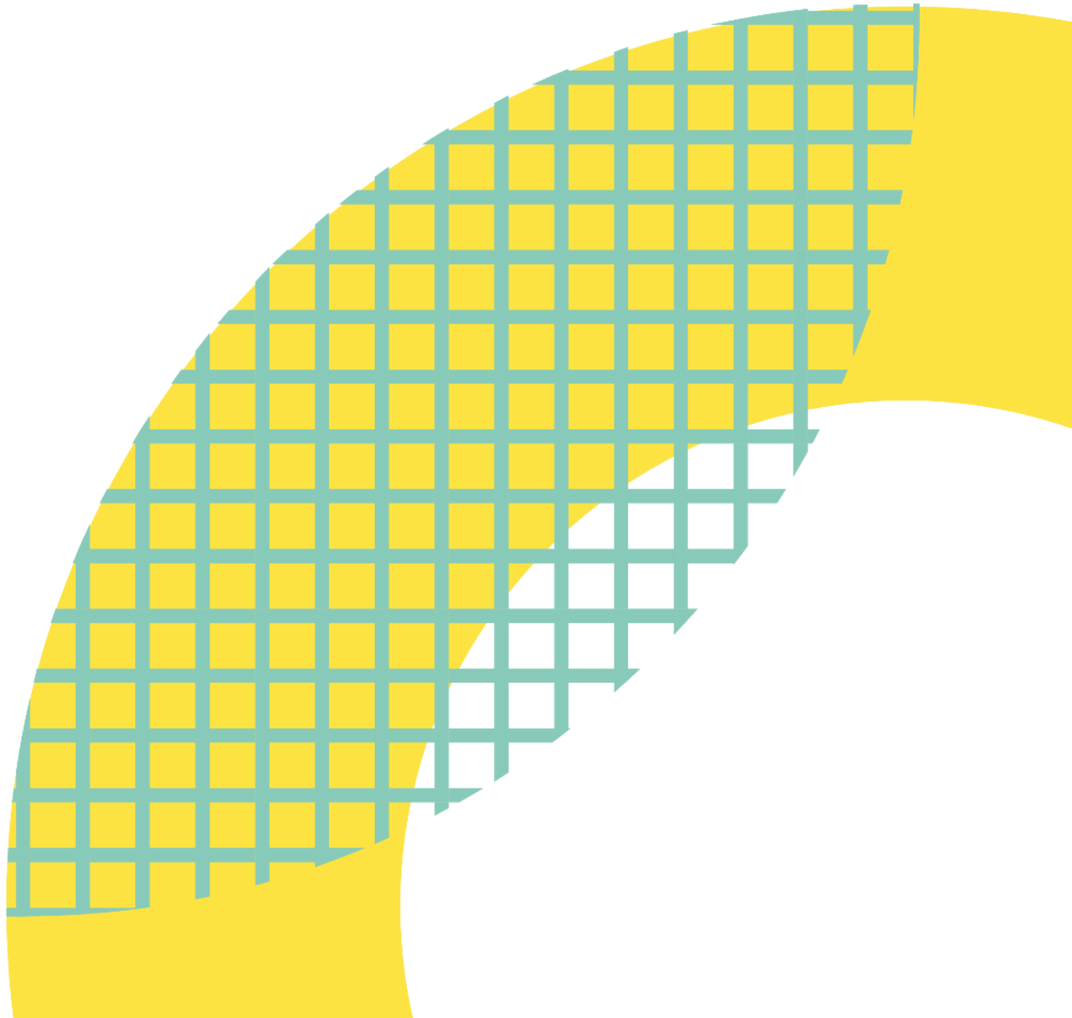
Institute of Coding

A brief introduction



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Overview

- Concept announced by George Osborne Nov 2015
- Contest launched HEFCE March 2017 (somehow morphed to “England”)
- Announced by Prime Minister, Davos Jan 2018

- Consortium of universities, industry, outreach and professional bodies working together to address part of the digital skills gap

Key challenges that the IoC will address:

- High UK demand for digital specialists (Additional 500K+ by 2022, Shadbolt Review, 2016)

- High 6-month unemployment for Computer Science graduates from English Universities (~11%, HESA, 2016)

- Mixed Diversity and Inclusion (e.g. 50% more LPN than other STEM, but percentage of women graduating in Computer Science in 2016/17 dropped to 15%)

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Approach

At a national scale the IoC will address the challenges by targeting four key groups through the 5 themes:

Theme 1 – University Learners, led by the Open University which will:

- Increase the number of university learners and improve employability through innovative learning methods

Theme 2 – The Digital Workforce, led by Aston University which will:

- Create learning that meets employer needs, enriches the student experience and provide in-work and flexible learning options that are viable at scale

Theme 3 – Digitalising Professions, led by Coventry University which will:

- Develop learning to address sector specific digital skills needs, build an industrial strategy and deliver modular training

Theme 4 – Widening Participation, led by QMUL which will:

- Develop a path from first contact to employment, removing barriers to entry and progress for poorly served groups

Theme 5 – Sharing and Sustainability, led by the University of Bath which will:

- Horizon scan for future digital skills need, disseminate and share best practice of the project, look at long-term sustainability and the management of the programme

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THEME 1: University Learners (Lead: Open University)

Challenges:

- Increase number of university learners at level 6 and 7.
- Increased graduate employability via stronger employer links.
- IoC courses in key areas (e.g. Data Science and Cyber Security).
- Embedding innovative learning methods into materials & delivery.

Work Packages:

1. Co-designed Industry Accreditation Standard
2. Degree Programmes
3. Curriculum Innovation
4. Student Software Companies
5. Extra-Curricular Innovation
6. Innovative Spaces
7. Data Analytics for Education Enhancement
8. Blockchain Learner Records

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Theme 1 University Learners

New routes to support inclusivity

(Theme 4)

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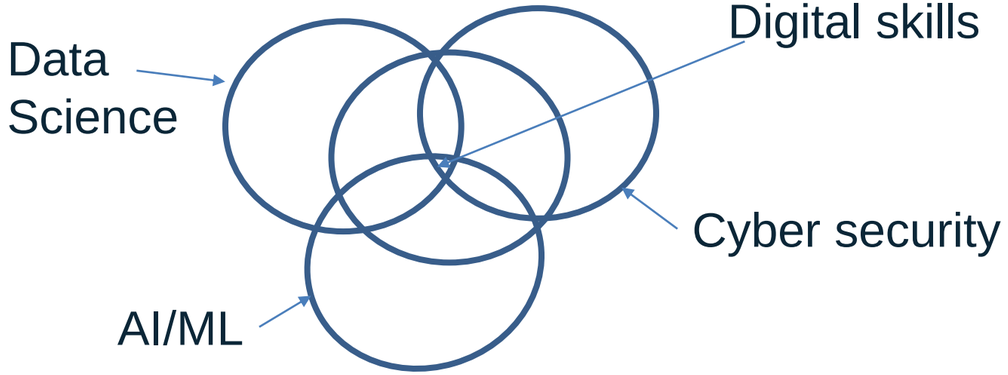
Co-Designed Industry Standard (1.1)



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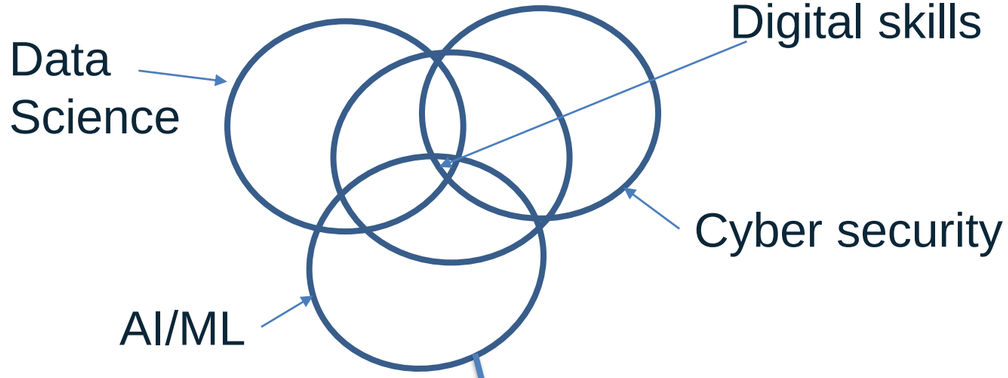
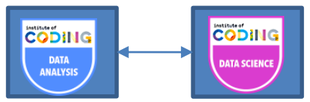
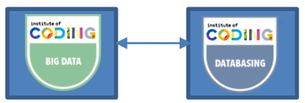
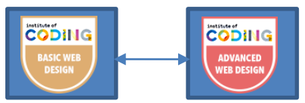


Learner Records (1.8)







Micro-accreditation

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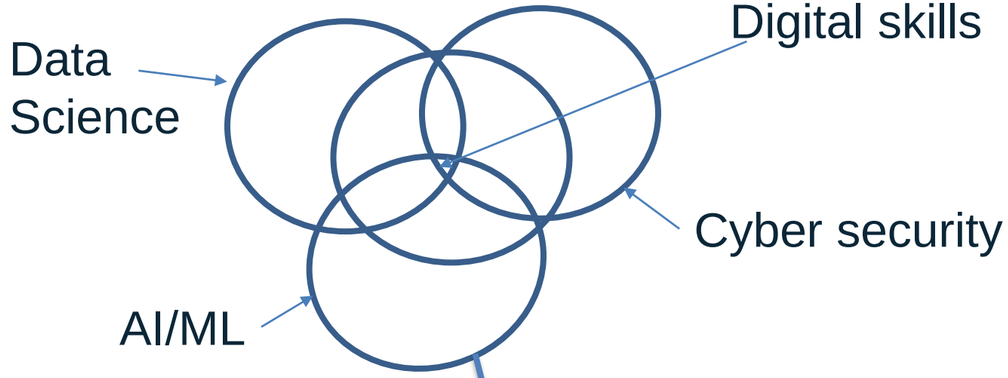

Learner Records (1.8)

(Theme 2 & 3)

Industry platforms for learning
e.g.
Cisco
IBM
Amazon
Microsoft
Google

Micro-accreditation

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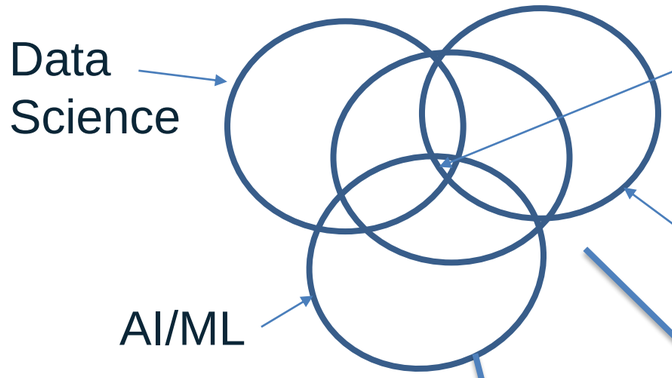
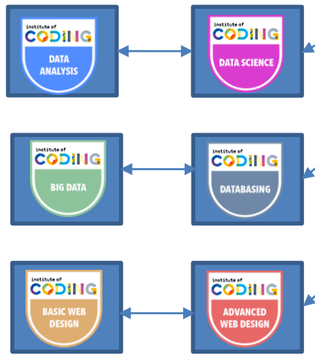


Degrees Programmes (1.2)

MSc
BSc
Modules
Introductions
Top-ups

Learner Records (1.8)



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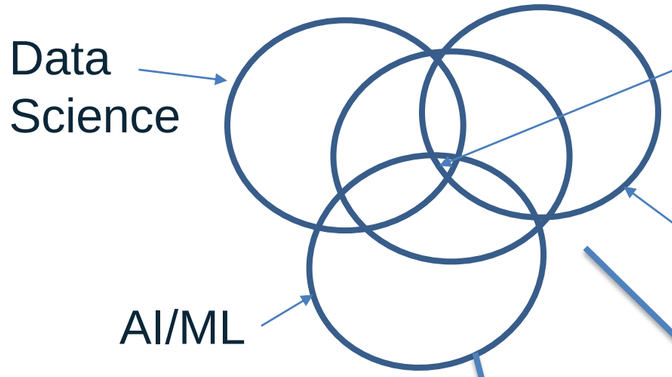

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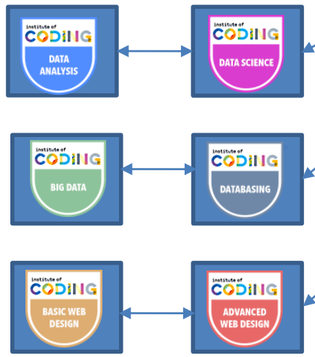

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HEI platforms/VLEs
MOOCs, bootcamps, summer schools

Curriculum Innovation (1.3)
Extra-Curricular Innovation (1.5)
Innovative Spaces (1.6)

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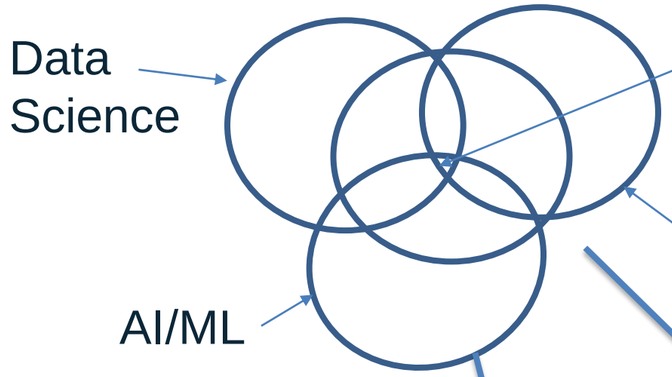

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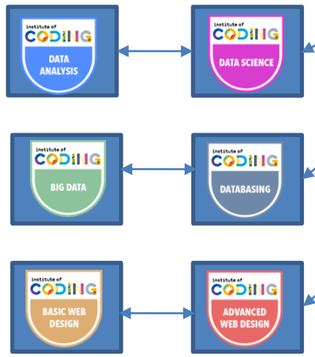

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Student Enterprises (1.4)

Entrepreneurial, collaboration and leadership skills

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Co-Designed Industry Standard (1.1)

Use of Analytics for Enhancement (1.7)

Student Employability Journey

Data Science

Digital skills

Cyber security

AI/ML

Degrees Programmes (1.2)

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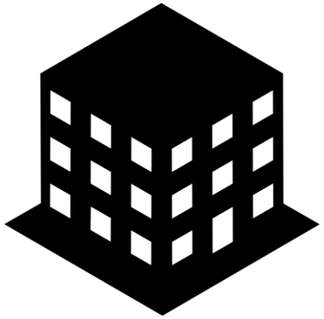

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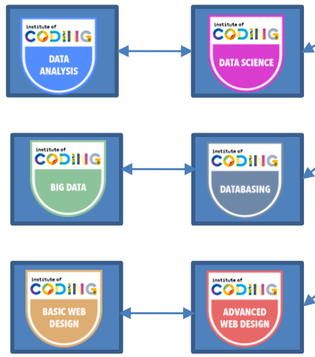

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Theme 2: the Digital Workforce

Aim: to create a new industry-facing market of HEI-led, industry-valued provision in areas of strategy importance

WP2.1 Alternative Delivery Models

identify and synthesis good practice

WP2.2 Specialist Provision

to upskill employees with an existing technical background in the area

WP2.3 Generalist Provision

retrain employees from different background with digital skills to move into new roles

WP2.4 Education training

to work with employers on training employees with an educational/training role in their company

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Shadbolt Review 2016 – How T2 contributes

Recommendation 1: Improving the data

Recommendation 2: Extending and promoting work experience

Recommendation 3: Ensuring graduates' foundational knowledge and their ability to adapt

Recommendation 4: Improving graduates' softer and work readiness skills

Recommendation 5: Careers advice and visibility of graduate opportunities

Recommendation 6: Developing a clearer view of the requirements of start-up technology companies

Recommendation 7: Developing a better understanding of, and supporting SMEs

Recommendation 8: Horizon scanning for future demands for skills

Recommendation 9: Academic accreditation of degree courses

Recommendation 10: Engaging industry in accreditation

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Theme 2 Challenges

- To champion the role of the university as a teaching and learning partner/provider to equip learners for a career rather than jobs
- To draw in more representation from business and industry, across the sectors and from different sizes of company
- To draw in more universities to provide Degree Apprenticeships and other course models, disseminate their knowledge and address needs specific to their region
- Helping universities and employers to understand each others procedures and timescales for developing new courses

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Theme 3: Digitalising Professions

Aim: to create a new industry-facing market of HEI-led, industry-valued provision in areas of strategy importance

- **WP 3.1 Modular digital masters programme**
- **WP 3.2 Short tasters**
- **WP 3.3 Develop enhanced online platform functionality to improve course delivery**

These will focus on

- Short courses and CPD for industries other than IT: creative economy, automotive, manufacturing, healthcare, the financial sector etc.
- Flexible study, through tasters, credit-bearing courses and apprenticeships leading to level 6 and 7 qualifications
- Providing skills and knowledge required for the workforce to evolve with modern requirements
- Helping industry to be aware of current opportunities as well as those that might accompany future developments. Through education, training and awareness.

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Theme 4: Widening participation

- **WP 4.1 Creating a pipeline:** strong overlap with National Centre for Computing Education here.
- **WP 4.2 Tailored, inclusive curricula:** some research in US at school level – very little university experience
- **WP 4.3 Flexible delivery models**
- **WP 4.4 Understanding barriers**
- **WP 4.5 Sharing good practice**: LEO shows that results vary widely between universities

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Theme 5: underpinning

- WP 5.1 Digital Skills Observatory
- WP 5.2 Conferences, events and media: First Conference 10-13 March 2019, Manchester: 12th is key day
- WP 5.3 Long-term sustainability
- WP 5.4 Educating the educators (Strong overlap NCCE)
- WP 5.5 Future Projects Fund (call closed December 2018); results imminent.

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5.1 Digital Skills Observatory

- To work with employers and other stakeholders to identify and anticipate skills gaps through mapping current needs;
- To build up an evidence base of research, analysis and intelligence
- [not helped that DLHE has ended; hope to work with LEO as well; currently updating the Shadbolt data to 2018 DLHE]
- To create an inclusive digital community including a national network of SMEs and start-ups;
- [but of course these are busy people with immediate needs]
- and to provide leadership and policy direction.

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Thank You

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Website: instituteofcoding.org

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