



## Candidate Specification

# Principal Researcher (Data Science)

**Salary:** £45k-£56k per annum, plus benefits  
**Location:** Blackfriars, Central London  
**Term:** Fixed-term 2-year contract  
**Hours:** Full-Time (37.5 hours per week)

The UK's innovation foundation, Nesta is looking to recruit a Principal Researcher (Data Science) to develop its ambitious programme of research around skills and labour market information.

From automation to climate change and from globalisation to our ageing population, there are a myriad of factors changing the nature of work in the UK. These factors mean the majority of workers are in occupations with highly uncertain futures. Amidst this changing landscape, policymakers, educators, businesses and individuals need more timely and granular information on how occupations are changing and what skills employers value most. This is an area where Nesta has built up a global reputation for original and influential research. Increasingly, Nesta has been making use of new data sources and analytic methods to understand the changing labour market, such as online job adverts, network analysis, machine learning and data visualisation.

As a Principal Researcher (Data Science), you will work in a new small unit of data scientists and economists to design and deliver data science projects on the labour market.

### The Role

We are looking to recruit a Principal Researcher (Data Science) to develop and implement data-led research projects in a new unit we are setting up to develop labour market projects. The Principal Researcher will:

- Collect and link data sets including web-based, open and /or official data.
- Analyse relevant data using data science methods such as supervised and unsupervised machine learning and natural language processing techniques



- Communicate findings through conference and peer reviewed papers, research notes, blogs, data visualisations and open source software
- Participate in the development of new research proposals for funders

Some examples of current projects that are indicative of the type of work the successful candidate might get involved with include:

- Building neural network models to nowcast wages using information on offered salaries from online job adverts.
- Using job adverts to measure the value of skills and to identify new (and redundant) skill clusters.
- Improving our understanding of career transitions using longitudinal administrative data.
- Using employee reviews left on websites to identify the factors that determine job quality.
- Applying machine learning techniques to the descriptions of university courses in order to track the supply of skills.

The successful candidate will work closely with other data scientists and economists in the unit and in the wider team. This kind of work is innovative in nature and will suit somebody who is entrepreneurial and combines academic rigour with a willingness to 'get their hands dirty' with real-world data to answer difficult but important questions.

## **Work Environment**

Nesta has a highly collaborative work culture, and the Principal Researcher should expect to undertake most of their projects with other data scientists and researchers. They will become members of Nesta's Analytics Special Interest Group, which currently has around 15 data scientists and analysts who meet regularly to discuss their work and explore opportunities to advance Nesta's objectives through data analytics.

The Principal Researcher would agree a development plan with objectives and how this fit into their longer-term career goals. Support would include access to a training budget as well as opportunities for mentoring, peer learning and project learning time.

Staff enjoy a flexible work environment with the ability to work at home one or two days a week.



## The Person

- PhD qualification in a relevant quantitative discipline (e.g. computer science, data science, econometrics, engineering, operations research, physics etc.).
- Candidates with an excellent Master's degree, i.e. distinction, in a relevant subject will be considered if they also have relevant professional experience.
- Strong quantitative data processing and analysis skills, including expertise in web-based data collection and machine learning techniques, and expertise in data science-relevant programming languages, specifically Python or R. Candidates with a sufficiently strong background in a broad range of data science techniques in other programming languages will be considered.
- We would also value candidates with proven knowledge of any of the following:
  - Data engineering and experience with database technologies,
  - Experience of processing and linking large unstructured datasets,
  - Deep learning methods (for example with PyTorch, Tensorflow, CNTK, Keras),
  - Building ontologies,
  - Data and literatures relevant for the economic analysis of the labour market.
- Strong communication skills, including a proven ability to present research findings in ways that are clear, compelling and credible, and to draft high-quality written outputs from research.
- An excellent team player, with the ability to work flexibly and sensitively with policymakers, businesses and other researchers.
- Adaptable – flexible in approach and able to manage competing and changing priorities.
- Able to learn quickly and a strong desire to master new research areas.
- Intellectually curious – will look at things critically and ask new and important questions about the labour market.
- Pragmatic, results-driven and output-focused – the team is a prolific and high performance one, so the jobholder will need to be able to deliver high-quality, accurate outputs to deadline.



## About Nesta

Nesta is an innovation foundation. For us, innovation means turning bold ideas into reality. It also means changing lives for the better.

We use our expertise, skills and funding in areas where there are big challenges facing society, from the frontiers of personalised healthcare to stretched public services and a fast-changing jobs market.

Nesta is based in the UK and supported by a financial endowment. We work with partners around the globe to bring bold ideas to life to change the world for good.

## How to Apply

To find out more about Nesta and to apply for this role please visit <https://www.nesta.org.uk/jobs/>

**Closing date** for applications is 08:00 on **2 September 2019**.

**1<sup>st</sup> stage interviews** will be held **10 September 2019**.

**2<sup>nd</sup> stage interviews** will be held **w/c 16 September 2019**.