



What Works *for*
Children's
Social Care

Data Scientist

Candidate Brief

Dear Candidate,

Thank you for your interest in becoming a Data Scientist at What Works for Children's Social Care (WWCSC).

We are an exciting 'social start-up' and this is a fantastic opportunity to make a difference to the lives of children and their families in England. Every year over 700,000 children and young people, and their families, have contact with the children's social care sector. Changes in how the sector supports these children and their families can have hugely significant effects that resonate throughout entire lifetimes.

The Government's reform programme is increasingly giving control over how services should be run – along with accountability for the results – to the practitioners and practice leaders who are closest to children, young people and their families. Local authorities up-and-down the country, and supported by a range of other organisations both statutory and third sector, are using that freedom to try different ways of designing and delivering children's services, and up to £200m is being provided through the Department for Education (DfE) Innovation Programme to support this work.

Much of children's social work is about the social worker evaluating risk and predicting future outcomes as accurately as possible. Social workers could use the information from predictive models, along with all the other information, skill and experience they usually use, to make a decision about what support the family needs. In Children's Social Care, proponents argue that the approach could lead to the better and earlier targeting of services and early help to support families in need before they reach crisis point. Used correctly, it could be a useful tool for social workers to add to their toolbox. However, there are unsolved questions about the accuracy of the models and for which situations it is ethical and acceptable to use them.

To try to answer whether predictive models should be used in children's social care, What Works for Children's Social Care (WWCSC) is working with six local authorities to assess the accuracy of predictive models on a range of questions associated with children's social care (in addition to work assessing the ethics and acceptability). The aim is to help local authorities understand whether it's worthwhile investing in developing these types of models and associated tools to assist social workers in practice. To find out more about the project, please see: <https://whatworks-csc.org.uk/blog/why-is-the-what-works-centre-researching-machine-learning/>

Thanks once again for your interest and we look forward to hearing from you.

Michael Sanders

Executive Director, What Works for Children's Social Care

Role Description

We are searching for someone to join us on a short term contract or secondment to undertake the analysis for one local authority, based in London. You will be able to build on and further develop an existing code base from analysis at two local authorities so far, and you will be supported remotely by WWCS's Data Science Manager. The project will feed into an overall report, evaluating the technical feasibility of predictive models, which will be published in Spring 2020. Depending on experience, you may also be asked to quality assure the existing code. The code will be published under a copy-left licence at the end of the project so that all local authorities can benefit.

The Attributes We Are Looking for

Knowledge and Experience:

- Expertise in cleaning structured and unstructured datasets.
- Expertise in text processing and topic modelling.
- Expertise in classification.
- Desirable: competence in interpretable machine learning.

Skills and Abilities:

- High level of competence in data analysis and machine learning libraries in Python (pandas, numpy, sklearn).
- High level of competence in NLP libraries in Python (preferably Spacy).
- Desirable: high level of competence in R.

Values:

- A passion for the agenda around What Works Centres and the broader agenda around evidence-based policy and practice in public services.
- Personal commitment to improving outcomes for children and young people, and their families.

Personal Style:

- Ability to work independently: you will be working onsite at a local authority with remote support from WWCS's Data Science Manager. You will need to be able to de-bug code by yourself.
- Ability to understand complex systems quickly: you will need to pick up quickly the possible journeys children / young people can take through the children's social care system.
- Ability to work to a deadline: you will need to be able to prioritise tasks within the time available.
- Ability to maintain confidentiality: you will be working with highly sensitive, personal data. You will be asked to sign a confidentiality agreement and may be asked to undertake a DBS check.
- Resilience: the text data consists of assessments, reports and notes about children / young people involved in children's social care, which can be difficult to read. You will be supported by the Senior Management Team.

Initial Terms and Conditions of Appointment

Remuneration

circa £44k (pro rata)

Time Commitment

This is a full-time role anticipated to start at the end of October

Location

Central London (mostly based at a Local Authority)

Term

A fixed term of 8 weeks

Option to have this as a secondment.

Other

This role is not a public appointment.

About Us

What Works for Children's Social Care seeks better outcomes for children, young people and families by bringing the best available evidence to practitioners and other decision makers across the children's social care sector. We generate, collate and make accessible the best evidence for practitioners, policy makers and practice leaders to improve children's social care and the outcomes it generates for children and families.

Our research looks at the point of referral through to permanence, including adoption, care-leaver support and targeted early help. We focus on children's social care practice in England and draw on and share learning at the international level.

We were commissioned by the Department for Education to work alongside CASCADE at Cardiff University. Engagement and co-design are central to our approach and we are working in close consultation with leaders, practitioners, children and young people, families and researchers across the sector to:

- Identify gaps in the evidence, and create new evidence through trials and evaluations
- Collate, synthesise and review existing evidence
- Develop, test and publish tools and services that support the greater use of evidence and inform the design of the future Centre
- Champion the application of robust standards of evidence in children's social care research.

WWCSC collates, produces, and translates research about “What Works” in Children’s Social Care through a variety of different methodologies, both qualitative and quantitative, to conduct research that can be used by social workers, leaders in the sector and policymakers to support children and their families.

To do this, all of our research needs to adhere to our four principles:

- Research needs to focus on impact – how does a piece of practice work, how does it impact on social workers, and if we take one action rather than another, what happens as a result?
- We need to bear in mind the nuance of social care. The lives of children and families are complex and complicated, and there are many factors involved in successful social work. What works in one setting for one family might not work in a different circumstance. We need to design our research to take into account – and even celebrate – this complexity.
- Studies have to be useful – if we can’t identify who we think should be able to make use of a piece of research, it’s not for us. While there is certainly value in more exploratory research, this is not part of the Centre’s mission and objectives.
- Everything we do needs to help empower the profession. Our research needs to be conducted with the profession, and not done to them – it needs to provide recommendations, not prescriptions, and it needs to support existing and innovative practice to grow the evidence base.

How to apply

To apply, please send your CV and a supporting statement outlining clearly how you would succeed in the role to recruitment@nesta.org.uk, citing “WWCSC Data Scientist” in the Subject of the email.

Deadline for applications: 11th October 12pm