



## Data scientist or Senior data scientist 3ie

### 1. Background

The [International Initiative for Impact Evaluation \(3ie\)](#) promotes evidence-informed equitable, inclusive and sustainable development. We support the generation and effective use of high-quality evidence to inform decision-making and improve the lives of people living in poverty in low- and middle-income countries. We provide guidance and support to produce, synthesise and quality assure evidence of what works, for whom, how, why and at what cost. 3ie is registered as a non-governmental organisation in the United States. It has offices in New Delhi, London and Washington, DC.

3ie is inviting applications for the post of Data Scientist (DS) or Senior Data Scientist (SDS), preferably based at the 3ie Offices located in Washington, DC or in New Delhi. However, for exceptional candidates, we may consider a remote working arrangement.

### 2. Summary

The DS or SDS will provide technical and management leadership in the application of data science (including spatial data science) methods to impact evaluations and evidence synthesis, including through the use of big data and predictive analytics (e.g., data mining, machine learning, predictive modeling). The DS or SDS will lead and/or support the design, implementation, review, oversight, and quality assurance of impact evaluations employing these methods. They will also contribute to the development and testing of novel methods to improve the rigor and/or efficiency of the analysis.

In addition, the DS or SDS will provide support in the preparation of proposal materials for fundraising, writing program documents and publications, reviewing grant proposals, managing external reviewers and consultants, and providing technical assistance for capacity building as needed. They will participate in high-level events, conferences, and workshops.

In various capacities, the DS or SDS communicates and negotiates directly with funders and represents 3ie to policymakers and researchers.

The successful candidate will have demonstrated expertise in data science, experience working in big data ecosystems, and familiarity with causal inference and impact evaluation, including experimental and quasi-experimental research designs, methods and the major applications and limitations of each.

#### New Delhi

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Experience implementing research and translating research evidence for decision-makers in L&MICs is highly desirable. We are seeking a highly diplomatic and entrepreneurial individual who is comfortable taking initiative and who thrives in a matrix-managed, fast-paced environment.

The DS or SDS will report mainly to 3ie's director of evaluation. In the case of staff located in the Washington office, there will be a secondary reporting relationship to the director of that office.

The DS or SDS may supervise and mentor junior staff. They will be working in a matrixed environment and will be expected to establish strong and collaborative relations with staff across all 3ie offices, with researchers and other stakeholders in the field and with 3ie members located in L&MICs. International and domestic travel is expected at approximately 10 to 20 per cent of their time, the situation permitting.

### **3. Key responsibilities**

#### **3.1 Impact evaluation and technical assistance**

- Provide technical and management leadership in the application of data science methods to impact evaluations and evidence synthesis, including through the use of data mining, machine learning, artificial intelligence, and big data;
- Conceptualize, design, conduct, review, oversee, and/or quality assure impact evaluations employing these methods;
- Develop and test novel methods to improve the rigor and/or efficiency of impact evaluations and evidence synthesis;
- Lead teams in designing and implementing protocols for the collection, cleaning, processing, analysis, and interpretation of multiple different types of data sources, including machine-generated (e.g., fixed and mobile sensors, satellites), process-mediated (e.g., administrative data, call record details), and human-sourced (e.g., social networks, crowd-sourcing);
- Provide other technical assistance to key 3ie stakeholders as needed, on topics including but not limited to capacity development, evaluation methods and study design, database development, and evidence uptake and use; and
- Work with consultants and stakeholders in the field, as well as with 3ie staff, to ensure documentation of 3ie's evaluation programs.

#### **3.2 Institutional advancement and communications**

- Represent 3ie in evaluation and development fora, including technical working groups and donor, bilateral, and multilateral consultative groups and meetings;
- Strengthen and build relationships with 3ie's key stakeholders, including members, donors, policymakers and researchers;
- Lead and contribute to technical reports, publications, briefs, blogs, website content, and other social media on evidence programs and professional services; and
- Engage in strategic growth and diversification of 3ie initiatives to cultivate donors, develop partnerships, write technical proposals, and support innovations in program development.

## 4. Qualifications, experience, and skills

### 4.1 Education and work experience for the SDS position

- PhD in economics, data science, statistics, engineering, public policy, or other relevant social science with a significant quantitative analysis component with five or more years (or a Master's with eight or more years) of demonstrated experience as applied to L&MICs;
- Advanced expertise in data science methods, including data wrangling, exploratory analysis of large-scale datasets, statistical analysis, predictive analytics;
- Experience with spatial analysis and geographic information systems;
- Research experience and in-depth knowledge of experimental and quasi-experimental methods applied in impact evaluation (e.g., randomised controlled trials, instrumental variables, propensity score matching, interrupted time series);
- Academic knowledge of and direct field experience with environmental, health, nutrition, and other social sector programming in L&MICs;
- Experience working with and presenting to high-level officials in funding agencies, international organizations, private foundations and government ministries;
- Experience with research transparency practices and open data; and
- Experience supporting new business activities and demonstrated ability to write technical proposals across one or more development sectors preferred.

### 4.2 Education and work experience for the DS position

- PhD in economics, data science, statistics, engineering, public policy, or other relevant social science with a significant quantitative analysis component with one to two years (or a Master's with four to five or more years) of demonstrated experience in relevant fields, as applied to L&MICs;
- Advanced expertise in data science methods, including data wrangling, exploratory analysis of large-scale datasets, statistical analysis, predictive analytics;
- Experience with spatial analysis and geographic information systems;
- Research experience and in-depth knowledge of experimental and quasi-experimental methods applied in impact evaluation (e.g., randomised controlled trials, instrumental variables, propensity score matching, interrupted time series);
- Academic knowledge of and direct field experience with environmental, health, nutrition, and other social sector programming in L&MICs; and
- Experience supporting new business activities and demonstrated ability to write technical proposals across one or more development sectors preferred.

### 4.3 Skills

- Proficiency in, and at least two years' experience using, database programming languages such as R, Python, Matlab, or SQL (experience with Python data analysis libraries, such as, Pandas, NumPy and Bokeh/Matplotlib preferred);
- Experience with using version control management tools such as GitHub or Jupyter Notebooks; GitHub preferred;
- Ability to carry out spatial analyses and mapping in ArcGis, QGIS (preferred), and/or other GIS software packages;

- Excellent teamwork skills as well as ability to take initiative and work independently as needed;
- Excellent oral and written communication as well as presentation skills in English; with professional proficiency in additional languages highly preferred;
- Excellent organizational skills, attention to detail, and the flexibility and willingness to adapt to shifting priorities and deadlines;
- Excellent cross-cultural skills and diplomacy, and a reputation for being a strategic thinker, innovator, networker, and pragmatic problem-solver; and
- Experience of managing staff is preferred.

## 5. Eligibility

We will recruit one or more individuals with the right to work in the US or India. 3ie is an equal-opportunity employer committed to equality and diversity. We do not discriminate based on sex, age, religion, ethnicity, caste, sexual orientation or for being differently abled. We particularly encourage ethnic minorities and differently abled persons to apply.

## 6. Terms of Employment

Candidates should be available to start work as soon as possible. The salary range for this position is competitive and commensurate, based on location, qualifications and experience.

Our policies and procedures reflect our commitment to safeguarding children and vulnerable adults from abuse. We follow a zero-tolerance policy for any form of bullying or harassment in the workplace.

## 7. How to Apply

Please apply by e-mail to [jobs@3ieimpact.org](mailto:jobs@3ieimpact.org), and include '3ie Data Scientist' or '3ie Senior Data Scientist' in the subject line. The applicant must provide, at a minimum, the following information:

- A cover letter, not exceeding one page, highlighting your qualifications and experience relevant to the terms of reference;
- Curriculum vitae (not to exceed four pages);
- Work sample demonstrating one or more of the data science proficiencies listed above (e.g., a research paper or other technical document) that you alone authored/produced;
- Contact information for three professional references; and
- Please indicate in your cover letter if you have legal authorization to work in the United States or in India.

The deadline for receiving applications is **25 September, 2020**. Applications will be reviewed on a rolling basis and incomplete applications will not be considered. 3ie will contact the shortlisted candidates only.