



## Data Scientist Consultant - Terms of Reference

Shujaaz/iMedia Associates

9 August, 2023

### Background:

iMedia Associates (iMedia) is an international media and communications for development consultancy. Much of our work focuses on social and behaviour change communications (SBCC), synthesising learning and best practice, as well as supporting implementation research and evidence-building. Currently iMedia is providing support to Shujaaz, a multi-media platform in East Africa whose mission is to break down barriers to enable young people to take control of their future.

Our collaboration uses a range of methodological approaches to traditional and 'Big Data' analysis to improve Shujaaz SBCC practices, including to strengthen understanding of how to:

- a. optimise the segmentation of digital audiences and tailor content for deeper and faster impact around family planning (FP) and other issues.
- b. identify, track, and disrupt the spread of myths, mis/disinformation and harmful norms online with accurate sexual and reproductive health (SRH) information, and positive sentiment and norms.
- c. identify effective ways to link young people to Direct to Consumer and Digital Counselling (DTC/DC) to increase access to FP counselling, services, and products.

iMedia wishes to engage an experienced data scientist for a short-term consultancy to support on-going Big Data analysis pertaining to the audience segmentation exercise as described above. A longer-term engagement is possible based on the consultant's performance and interest.

**Position:** Data Scientist (short-term consultant)

**Primary activities:** Digital data analysis, social-media data analysis, support for digital dashboard development

### Term:

- Immediate start
- 2 weeks trial period
- 4 months part-time (50-75%) engagement
- Possible extension based on performance

**Report to:** Senior Data Scientist, iMedia

**Main responsibilities:**

- Source required digital data from social media and otherwise.
- Prepare the data for analysis, removing irrelevant information, normalizing and dealing with special characters or slang specific to Sheng.
- Conduct analysis of the content of Facebook posts in English, Swahili and Sheng under the supervision of a senior data scientist.
- Provide necessary support to the senior data scientist as required for in-depth analysis of digital data, including topic modelling and segmentation.
- Support the development of the digital dashboard when and as requested by the senior data scientist.
- Draft data collection and data analysis protocols and reports on the findings of data analysis for review and approval of the senior data scientist.

**Data Collection:**

Accessing Facebook API, scraping public posts, and obtaining data from bots and online surveys, complying with ethical best-practices.

**Education and experience:**

- A Master's degree in Data Science or a similar field.
- At least 3 years of professional experience beyond internships and college projects.

**Required skills:**

- Text Analysis Techniques: Topic modelling using Latent Dirichlet Allocation (LDA) and/or Non-Negative Matrix Factorization (NMF) to discover latent topics, text and user classification based on topics.
- Evaluation of the performance and accuracy of analysis based on labeled data and calculation of metrics such as precision, recall, and/or F1-score.
- Ability to describe findings with different rates of complexity for different types of audiences, including non-researchers and experienced data scientists.
- Experience with using various visualization techniques and software.
- Experience building turn-key dashboards with different levels of complexity.

**Desirable skills/experience:**

- Familiarity with or fluency in Swahili and/or Sheng.
- Writing/contributing to peer-reviewed articles and conference presentations.

**Key deliverables:**

- Data analysis scripts.
- Data visualizations.

- Narrative report documenting the entire process, including the data collection methodology, preprocessing steps, analysis techniques, and findings.

**Fee range:**

\$350-\$450 dependent on experience and skill levels

**Location:**

Remote working. If based in Kenya the successful applicant may be offered the opportunity to work alongside Shujaaz colleagues.

**To apply:**

- Most recent CV
- 3 examples of previous work, including dashboards (screenshots will suffice).
- Names and contact details for 2 professional referees

**Applications should be sent to [nicola@imediaassociates.org](mailto:nicola@imediaassociates.org) and [linda@imediaassociates.org](mailto:linda@imediaassociates.org) by 1700hrs GMT on August 22, 2023**