



## CONSULTANCY - TERMS OF REFERENCE

# Title: Data Science/Machine Learning (DS/ML) Advisor

*Division: UNICEF Office of Innovation, Stockholm, Sweden*

*Duration: 12 Months*

*Duty Station: Remote, coordinates with Stockholm office.*

### Advertising summary

Interested in finding a better model for Dengue fever prediction to improve health outcomes for children? Keen to develop anomaly detection tools for large scale humanitarian cash transfer programs to help make sure help gets to those that need it the most? Come help us design, build, test and deploy the tools to apply DS/ML to these kinds of challenges and more.

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### Child Safeguarding

Is this project/assignment considered as "Elevated Risk Role" from a child safeguarding perspective?  YES  NO

If YES, check all that apply:

**Direct contact role**  YES  NO

If yes, please indicate the number of hours/months of direct interpersonal contact with children, or work in their immediately physical proximity, with limited supervision by a more senior member of personnel:

**Child data role**  YES  NO

If yes, please indicate the number of hours/months of manipulating or transmitting personal-identifiable information of children (name, national ID, location data, photos):

**More information is available in the [Child Safeguarding SharePoint](#) and [Child Safeguarding FAQs and Updates](#)**

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## Summary

UNICEF works in some of the world's toughest places, to reach the world's most disadvantaged children. To save their lives. To defend their rights. To help them fulfill their potential.

Across 190 countries and territories, we work for every child, everywhere, every day, to build a better world for everyone.

And we never give up.

## For every child...innovate

UNICEF has a 70-year history of innovating for children. We believe that new approaches, partnerships and technologies that support realizing children's rights are critical to improving their lives.

The Office of Innovation is a creative, interactive and agile team in UNICEF that sits at the unique intersection of working on material global issues, start up thinking, technology and partnerships that can scale solutions. We look to form partnerships around frontier technologies (including AI, drones and UAVs, blockchain, wearables and sensors, and 3D-printing) that exist at the intersection of \$100 billion markets and 1 billion person needs.

The Office of Innovation's Venture Fund is a pooled funding vehicle specially designed to finance early stage, open-source technology that can benefit children. The core motivation of the Innovation Fund is to identify clusters or portfolios of initiatives around emerging technology – so that UNICEF can both shape markets and learn about and guide these technologies to benefit children. We invest in solutions that can impact the lives of the most vulnerable children.

## How can you make a difference?

UNICEF's Office of Innovation (OOI) is looking for an experienced DS/ML Advisor to provide technical support and guidance to the DS/ML related work at the Office of Innovation as well as across UNICEF through engagements at HQ, Regional and Country level.

Sitting in the Ventures' Emerging Tech team, this consultant will have a belief that DS/ML can be a powerful tool to help UNICEF rapidly accelerate positive results for children. The successful consultant will have a strong desire to guide and inform early-stage DS/ML projects developed for, and implemented in, UNICEF program countries. Understanding the complexities between theory and practice and what it takes to make future ideas work in different contexts will be a characteristic of the consultant, as well as a conviction for pioneering and promoting responsible and ethical DS/ML practices.

## Your main responsibilities will be:

- Providing DS/ML technical guidance, support and mentorship to:
  - Venture Fund supported team seed and growth cohort projects and companies.

- UNICEF’s Office of Innovation and other UNICEF teams, divisions, and offices
- Supporting the technical exploration, development and rollout of early-stage DS/ML initiatives, models and prototypes, within UNICEF with an aim to accelerate results for children.
- Working with internal and external stakeholders to support the understanding, adoption and scale of DS/ML initiatives across UNICEF.

#### Description of assignment

	<b>Tasks</b>	<b>Deliverables</b>	<b>Timeframe / Delivery date</b>
1	<b>Technical guidance, support and mentorship to seed, growth, scale and hub initiatives within the Ventures team, PCS team and the wider Office of Innovation.</b>		33% of tasks outlined, see payment schedule below
		Review report of Venture Fund’s DS/ML cohort/products.	Month 2.
		Venture Fund Cohort Mentoring Session Tracker updates.	Ongoing.
		Bi-weekly DS/ML update report.	Ongoing.
		Venture Fund Cohort workshop contributions.	Month 3, 6, 9 & 12.
		Review report of PCS & Hub DS/ML portfolio solutions.	Month 4.
		DPG Team Priority Review report.	Month 3.
2	<b>Technical exploration, guidance, and development of DS/ML initiatives.</b>		34% of tasks outlined, see payment schedule below
		Internal product/project infrastructure needs analysis report.	Month 3.

		Frontier Explorations, prototyping, concept contributions.	Ongoing.
		Venture Fund Technical guidance Tracker updates.	Ongoing.
		DPG team technical guidance sessions Tracker updates.	Ongoing
		Country Office Technical guidance sessions Tracker updates.	Ongoing
		Internal product infrastructure needs planning report.	Month 11.
3	<b>Adoption and scale of DS/ML related approaches across UNICEF.</b>		33% of tasks outlined, see payment schedule below
		Bi-weekly Exploration Development update report.	Ongoing.
		Contributions to partnerships updates for the Partnerships and Communications team (on demand).	Ongoing
		Monthly Research and analysis update for priority areas of work.	Ongoing
		DPG Team Priority Review report.	Month 3
		DS/ML Advisor consultancy Final Report	Month 12.

### To qualify as an advocate for every child you will have...

- An advanced university degree (Master's or higher) in Computer Science, Data Science/Machine Learning, or another relevant field.  
\*A first University Degree in a relevant field combined with 2 additional years of professional experience may be accepted in lieu of an Advanced University Degree.
- A minimum of five years of relevant professional, practical experience.
- Experience and exposure to relevant software development technologies, including:
  - Strong coding capabilities in Python or R and with Data Science related libraries.

- Experience with analytics & visualization tools (open viz libraries e.g. Shiny, flexdashboard or equivalent for R or Dash, Panel or equivalent for Python)
- Git and other open source software development tools
- Experience with cloud computing platforms such as GCP, AWS, Azure or others.
- Practical experience with rapid prototyping and evaluation of user feedback
- Demonstrated experience in development and deployment of ethical and responsible DS/ML practices, with examples in UNICEF program countries considered an asset.
- Demonstrated understanding of open source and open data principles and practices.
- Demonstrated experience working with non-technical teams in formulating their use cases, gathering business requirements, and involving non-technical stakeholders in the project delivery.
- Fluency in English is required. Knowledge of another official UN language (Arabic, Chinese, French, Russian or Spanish) or a local language is an asset.

#### Travel:

- The consultant is expected to travel to Stockholm for onboarding, training and knowledge management facilitation purposes over a period of 10 working days. The exact dates to be confirmed.
- The consultant is responsible for arranging his/her own travel, including visa and travel insurance.

#### Payment details and further considerations

- ⌘ Payment of professional fees will be based on the submission of agreed deliverables. UNICEF reserves the right to withhold payment in case the deliverables submitted are not up to the required standard or in case of delays in submitting the deliverables on the part of the consultant.
- ⌘ Payment schedules as per outlined tasks are:

<b>Deliverable</b>	Technical guidance, support and mentorship to Ventures, PCS and the wider Ool.	Technical exploration, guidance, and development of DS/ML initiatives.	Adoption and scale of DS/ML approaches across UNICEF.	<b>Total</b>
	%	%	%	%
<b>Month 1</b>	2.75	2.83	2.83	<b>8.41</b>
<b>Month 2</b>	2.75	2.83	2.83	<b>8.41</b>
<b>Month 3</b>	2.75	2.83	2.83	<b>8.41</b>
<b>Month 4</b>	2.75	2.83	2.83	<b>8.41</b>
<b>Month 5</b>	2.75	2.83	2.83	<b>8.41</b>

<b>Month 6</b>	2.75	2.83	2.83	<b>8.41</b>
<b>Month 7</b>	2.75	2.83	2.83	<b>8.41</b>
<b>Month 8</b>	2.75	2.83	2.83	<b>8.41</b>
<b>Month 9</b>	2.75	2.83	2.83	<b>8.41</b>
<b>Month 10</b>	2.75	2.83	2.83	<b>8.41</b>
<b>Month 11</b>	2.75	2.83	2.83	<b>8.41</b>
<b>Month 12</b>	2.75	<b>2.87</b>	<b>1.87</b>	<b>7.49</b>
<b>Total</b>	<b>33</b>	<b>34</b>	<b>33</b>	<b>100</b>

#### How to apply:

- € Interest applicant is required to submit a financial proposal with all-inclusive fee. Please see the financial proposal template.
- € **Applications without a financial proposal will not be considered.**

#### For every Child, you demonstrate...

UNICEF's values of Care, Respect, Integrity, Trust, Accountability, and Sustainability ([CRITAS](#)).

To view our competency framework, please visit [here](#).

UNICEF is here to serve the world's most disadvantaged children and our global workforce must reflect the diversity of those children. The UNICEF family is committed to include everyone, irrespective of their race/ethnicity, age, disability, gender identity, sexual orientation, religion, nationality, socio-economic background, or any other personal characteristic.

UNICEF offers reasonable accommodation for consultants/individual contractors with disabilities. This may include, for example, accessible software, travel assistance for missions or personal attendants. We encourage you to disclose your disability during your application in case you need reasonable accommodation during the selection process and afterwards in your assignment.

UNICEF has a zero-tolerance policy on conduct that is incompatible with the aims and objectives of the United Nations and UNICEF, including sexual exploitation and abuse, sexual harassment, abuse of authority and discrimination. UNICEF also adheres to strict child safeguarding principles. All selected candidates will be expected to adhere to these standards and principles and will therefore undergo rigorous reference and background checks.

[United Nations Children's Fund](#)

Background checks will include the verification of academic credential(s) and employment history. Selected candidates may be required to provide additional information to conduct a background check.

**Remarks:**

Only shortlisted candidates will be contacted and advance to the next stage of the selection process.

Individuals engaged under a consultancy or individual contract will not be considered “staff members” under the Staff Regulations and Rules of the United Nations and UNICEF’s policies and procedures, and will not be entitled to benefits provided therein (such as leave entitlements and medical insurance coverage). Their conditions of service will be governed by their contract and the General Conditions of Contracts for the Services of Consultants and Individual Contractors. Consultants and individual contractors are responsible for determining their tax liabilities and for the payment of any taxes and/or duties, in accordance with local or other applicable laws.

The selected candidate is solely responsible to ensure that the visa (applicable) and health insurance required to perform the duties of the contract are valid for the entire period of the contract. Selected candidates are subject to confirmation of fully-vaccinated status against SARS-CoV-2 (Covid-19) with a World Health Organization (WHO)-endorsed vaccine, which must be met prior to taking up the assignment. It does not apply to consultants who will work remotely and are not expected to work on or visit UNICEF premises, programme delivery locations or directly interact with communities UNICEF works with, nor to travel to perform functions for UNICEF for the duration of their consultancy contracts.