

IP-CRC122719

Request for Proposal (RFP)

FOR THE PROVISION OF:

Data Science Training

COMMUNICATION RESEARCH CENTRE

FOR THE

DEPARTMENT OF INNOVATION, SCIENCE AND ECONOMIC **DEVELOPMENT CANADA**

Note: Please read this request for proposal carefully for further details on the requirements and bid submission instructions.

TABLE OF CONTENTS

PART 1 - GENERAL INFORMATION

- 1. Introduction
- 2. Submission of Bids
- 3. General Conditions and Clauses
- 4. Enquiries Solicitation Stage
- 5. Management of the Resulting Contract

PART 2 - EVALUATION PROCEDURES AND BASIS OF SELECTION

- 1. Evaluation Procedures
- 2. Basis of Selection

PART 3 - RESULTING CONTRACT CLAUSES

- 1. Statement of Work
- 2. Standard Clauses and Conditions
- 3. General Conditions
- 4. Contract Period
- 5. Contracting Authority
- 6. Project Authority
- 7. Contractor's Representative
- 8. Basis of Payment Limitation of Expenditure
- 9. Applicable Laws
- 10. Priority of Documents

LIST OF APPENDICES

- Appendix A Statement of Work
- Appendix B Bid and Acceptance Form
- Appendix C Mandatory Requirements
- Appendix D Additional Information

PART 1 – GENERAL INFORMATION

1. Introduction

The bid solicitation and resulting contract document is divided into three parts plus appendices as follows:

- Part 1 General Information: includes submission instructions, clauses and conditions applicable to the bid solicitation, and information about the contract authority.
- Part 2 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, if applicable, and the basis of selection;
- Part 3 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

2. Submission of Bids

2.1 Instructions for Submitting a Proposal

Bidders must prepare their proposal in two (2) separately bound sections as follows:

SECTION 1 – TECHNICAL SUBMISSION (1 copy) (with no reference to price)

The technical bid consists of the following:

This section must include your response to the Mandatory Requirements as stated in Appendix C. To be considered responsive, a proposal must respond to the Mandatory Requirements of this solicitation. The responses to the mandatory requirements must be included in Section 1 of their technical proposal.

Substantiation of Technical Compliance

The technical bid must substantiate the compliance of the bidder and its products and services with the specific requirements of Appendix C, which is the requested format for providing the substantiation. The substantiation must not simply be a repetition of the requirement(s), but must explain and demonstrate how the Bidder will meet the requirements and carry out the required Work. Simply stating that the Bidder or its proposed solution or product complies is not sufficient. Where Canada determines that the substantiation is not complete, the Bidder will be considered non-responsive and disqualified. The substantiation may refer to additional documentation submitted with the bid - this information can be referenced in the "Bidder's Response" column of Appendix C, where Bidders are requested to indicate where in the bid the reference material can be found, including the title of the document, and the page and paragraph numbers; where the reference is not sufficiently precise, Canada may request that the Bidder direct Canada to the appropriate location in the documentation.

For Proposed Resources: The technical bid must include résumés for the resources as identified in Appendix "C". The Technical bid must demonstrate that each proposed individual meets the qualification requirements described (including any educational requirements, work experience requirements, and professional designation or membership requirements). With respect to the proposed resources:

- Proposed resources may be employees of the Bidder or employees of a subcontractor, or these individuals may be independent contractors to whom the Bidder would subcontract a portion of the Work.
- For educational requirements for a particular degree, designation or certificate, Canada will only consider educational programmes that were successfully completed by the resource by the time of bid closing. If the degree, designation or certification was issued by an educational institution outside of Canada, the Bidder must provide a copy of the

results of the academic credential assessment and qualification recognition service issued by an agency or organization recognized by the Canadian Information Centre for International Credentials (CICIC).

- For requirements relating to professional designation or membership, the resource must have the required designation or membership by the time of bid closing and must continue, where applicable, to be a member in good standing of the profession or membership throughout the evaluation period and Contract Period. Where the designation or membership must be demonstrated through a certification, diploma or degree, such document must be current, valid and issued by the entity specified in this solicitation. If the entity is not specified, the issuer must be an accredited or otherwise recognized body, institution or entity at the time the document was issued. If the degree, diploma or certification was issued by an educational institution outside of Canada, the Bidder must provide a copy of the results of the academic credential assessment and qualification recognition service issued by an agency or organization recognized by the Canadian Information Centre for International Credentials (CICIC).
- For work experience, Canada will not consider experience gained as part of an educational programme, except for experience gained through a formal cooperative programme at a post-secondary institution.
- For any requirements that specify a particular time period (e.g., 2 years) of work experience, Canada will disregard any information about experience if the technical bid does not include the relevant dates (month and year) for the experience claimed (i.e., the start date and end date). Canada will evaluate only the duration that the resource actually worked on a project or projects (from his or her start date to end date), instead of the overall start and end date of a project or a combination of projects in which a resource has participated.
- For work experience to be considered by Canada, the technical bid must not simply indicate the title of the individual's position, but must demonstrate that the resource has the required work experience by explaining the responsibilities and work performed by the individual while in that position. In situations in which a proposed resource worked at the same time on more than one project, the duration of any overlapping time period will be counted only once toward any requirements that relate to the individual's length of experience.

Customer Reference Contact Information:

- The Bidder must provide customer references. The customer reference who must each confirm, <u>if</u> requested by Canada the facts identified in the Bidder's bid, as required by Appendix "C".
- The form of question to be used to request confirmation from customer references is as follows:

Would you recommend [the Bidder] as a provider for advanced hands-on data science training covering deep learning consisting of 160 hours of instruction?

Yes
No
I am unwilling or unable to provide any information about the services described above.

• For each customer reference, the Bidder must, at a minimum, provide the name, the telephone number and e-mail address for a contact person. Bidders are also requested to include the title of the contact person. If there is a conflict between the information provided by the customer reference and the bid, the information provided by the customer reference will be evaluated instead of the information in the bid. If the named

individual is unavailable when required during the evaluation period, the Bidder may provide the name and contact information of an alternate contact from the same customer.

Bid Submission Form: Bidders are requested to include the Bid Submission Form – Appendix "D" Additional Information with their bids. If Canada determines that the information required by the Bid Submission Form is incomplete or requires correction, Canada will provide the Bidder with an opportunity to do so.

SECTION 2 – FINANCIAL SUBMISSION (1 copy)

This section must include the duly completed and signed Bid and Acceptance Form provided in Appendix B of this RFP.

Pricing: Bidders must submit their financial bid in accordance with the Basis of Payment provided in Appendix "B" of this bid solicitation. The total amount of Applicable Taxes must be shown separately. Unless otherwise indicated, Bidders must include a single, firm, all-inclusive rate in Canadian dollars in each cell requiring an entry in the pricing tables.

Note: Prices must appear in the <u>financial bid only</u>. No prices must be indicated in any other section of the bid.

All Costs to be Included: The financial bid must include all costs for the requirement described in the bid solicitation for the entire Contract Period. The identification of all necessary equipment, software, peripherals, cabling, components and travel required to meet the requirements of the bid solicitation and the associated costs of these items is the sole responsibility of the Bidder.

Blank Prices: Bidders are requested to insert "\$0.00" for any item for which it does not intend to charge or for items that are already included in other prices set out in the tables. If the Bidder leaves any price blank, Canada will treat the price as "\$0.00" for evaluation purposes and may request that the Bidder confirm that the price is, in fact, \$0.00. No Bidder will be permitted to add or change a price as part of this confirmation. Any Bidder who does not confirm that the price for a blank item is \$0.00 will be declared non-responsive.

Your proposal may be submitted by the following delivery methods:

By e-mail:

ic.crccontracting-contratscrc.ic@canada.ca

When using the e-mail method, bids must be submitted in one e-mail with two attachments clearly identified as follows:

- i) Technical Bid
- ii) Financial Bid

All attachments must contain RFP number IP-CRC 122719.

OR

Hard Copy to:

Anne Nino Communications Research Centre Procurement and Contracting Unit Building 2D, Room 136 3701 Carling Avenue Ottawa, Ontario K2H 8S2 Canada When using this Hard Copy delivery address method, bids must be submitted in two separate sealed envelopes/parcels as follows:

- 1. Technical Bid
- 2. Financial Bid

Bidders must ensure that the RFP number IP-CRC 122719 is clearly marked on all envelopes/parcels when tenders are delivered to the above mentioned address.

Proposals must be submitted and received by December 27, 2019 on or before 2:00 p.m. Eastern Standard Time.

IMPORTANT NOTICE TO BIDDERS

Canada does not assume any responsibility for delayed or rejected emails, or for any files that cannot be opened; and vendor acknowledgement that all risks associated with emailed submissions are their sole responsibility and the late submissions, regardless of the reason, will be rejected.

The Bidder bears all risk associated with delivering the bid submission by electronic submission, including but not limited to delays in transmission between the Bidders computer and the Federal Government Electronic Mail System.

The Bidder is solely responsible for ensuring that its complete email proposal submission and all attachments have been received before Closing Time.

Canada will only accept PDF format and MSWord. The electronic file should not exceed 10mB per email.

Any email containing a virus or malware will be rejected by Canada.

3. General Conditions and Clauses

The following terms and conditions will be part and parcel of this RFP and the resulting contract:

All conditions and clauses identified herein by title, number and date are set out in the <u>Standard</u> <u>Acquisition Clauses and Conditions</u> (SACC) Manual (<u>https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual</u>), issued by Public Works Government Services Canada (PWGSC).

4. Enquiries – Solicitation Stage

To ensure the integrity of the competitive bid process, enquiries and other communications regarding the RFP, from the issue date of the solicitation up to the closing date, are to be directed ONLY to the Contracting Authority named below. Enquiries and other communications are NOT to be directed to any other government official(s). Failure to comply with this paragraph may (for that reason alone) result in the disqualification of the proposal. Enquiries must be IN WRITING. Enquiries must be received no less than 15 working days prior to the RFP closing date to allow sufficient time to provide a response. Enquiries received after that time might not be answered prior to the RFP closing date.

Improvement of requirement during Solicitation Period

Should bidders consider that the specifications or Statement of Work contained in the bid solicitation could be improved technically or technologically, bidders are invited to make suggestions, in writing, to the Contracting Authority named in the bid solicitation. Bidders must

clearly outline the suggested improvement as well as the reasons for the suggestion. Suggestions that do not restrict the level of competition nor favour a particular bidder will be given consideration provided they are submitted to the Contracting Authority in accordance with the article entitled "Enquiries – Bid Solicitation". Canada will have the right to accept or reject any or all suggestions.

5. Management of the Resulting Contract

Contracting Authority Anne Nino Manager Procurement and Contracting Officer Communications Research Centre Canada | Centre de recherches sur les communications Canada (613) 998-1922 | <u>Anne.Nino@Canada.ca</u> | Government of Canada | Gouvernement du Canada

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

PART 2 – EVALUATION PROCEDURES AND BASIS OF SELECTION

1. Evaluation Procedures

Proposals will be evaluated in two (2) separate steps as follows:

- a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the mandatory requirements;
- b) An evaluation team comprised of representatives of Innovation, Science and Economic Development Canada will evaluate the bid.

Note: Innovation, Science and Economic Development Canada may choose to terminate the evaluation of any proposal upon the first finding of non-compliance with the mandatory requirements.

Innovation, Science and Economic Development Canada reserves the right at its sole discretion to request certification, proof, references, substantiation, or any other information to support and validate the criteria enumerated below. Should the certification, proof, references, substantiation and/or any other information be found unacceptable for any reason as solely determined by Innovation, Science and Economic Development Canada, no further consideration shall be given and the Bidder will be declared non-compliant.

Bids will be evaluated in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria. There are several steps in the evaluation process, which are described below. Even though the evaluation and selection will be conducted in steps, the fact that Canada has proceeded to a later step does not mean that Canada has conclusively determined that the Bidder has successfully passed all the previous steps. Canada may conduct steps of the evaluation in parallel.

An evaluation team composed of representatives of Canada will evaluate the bids on behalf of Canada. Canada may hire any independent consultant, or use any Government resources, to evaluate any bid. Not all members of the evaluation team will necessarily participate in all aspects of the evaluation.

In addition to any other time periods established in the bid solicitation:

- i. **Requests for Clarifications**: If Canada seeks clarification or verification from the Bidder about its bid, the Bidder will have 2 working days (or a longer period if specified in writing by the Contracting Authority) to provide the necessary information to Canada. Failure to meet this deadline will result in the bid being declared non-responsive.
- ii. **Requests for Further Information**: If Canada requires additional information in order to do any of the following pursuant to the Section entitled "Conduct of Evaluation" in 2003, Standard Instructions Goods or Services Competitive Requirements:
 - A. verify any or all information provided by the Bidder in its bid; or
 - B. contact any or all references supplied by the Bidder (e.g., references named in the résumés of individual resources) to verify and validate any information submitted by the Bidder,

The Bidder must provide the information requested by Canada within two (2) working days of a request by the Contracting Authority.

iii. **Extension of Time**: If additional time is required by the Bidder, the Contracting Authority may grant an extension in his or her sole discretion.

TECHNICAL EVALUATION

Mandatory Technical Criteria:

Each bid will be reviewed to determine whether it meets the mandatory requirements of the bid solicitation. Any element of the bid solicitation that is identified specifically with the words "must" or "mandatory" is a mandatory requirement. Bids that do not comply with each and every mandatory requirement will be considered non-responsive and be disqualified. The Mandatory evaluation criteria are described in Appendix "C" - Evaluation Criteria.

Point-Rated Technical Criteria:

Each bid will be rated by assigning a score to the rated requirements, which are identified in the bid solicitation by the word "rated" or by reference to a score. Bidders who fail to submit complete bids with all the information requested by this bid solicitation will be rated accordingly. The rated requirements are described in Appendix "C" - Evaluation Criteria.

Number of Resources Evaluated:

Only one resource per Resource Category will be evaluated as part of this bid solicitation as identified in Appendix "C". Additional resources will only be assessed after contract award once specific tasks are requested of the Contractor. The Contractor will be requested to propose resource(s) to satisfy the specific requirement based on the Statement of Work. The proposed resource(s) will then be assessed against the criteria identified in the Contract's Statement of Work in accordance with Appendix "C".

Reference Checks:

- i. If a reference check is performed, Canada will conduct the reference check in writing by email. Canada will send all email reference check requests to contacts supplied by all the Bidders on the same day using the email address provided in the bid. Canada will not award any points unless the response is received within 5 working days of the date that Canada's email was sent.
- ii. On the third working day after sending out the reference check request, if Canada has not received a response, Canada will notify the Bidder by email, to allow the Bidder to contact its reference directly to ensure that it responds to Canada within 5 working days. If the individual named by a Bidder is unavailable when required during the evaluation period, the Bidder may provide the name and email address of an alternate contact person from the same customer. Bidders will only be provided with this opportunity once for each customer, and only if the originally named individual is unavailable to respond (i.e., the Bidder will not be provided with an opportunity to submit the name of an alternate contact person if the original contact person indicates that he or she is unwilling or unable to respond). The 5 working days will not be extended to provide additional time for the new contact to respond.
- iii. Wherever information provided by a reference differs from the information supplied by the Bidder, the information supplied by the reference will be the information evaluated.
- iv. Points will not be allocated and/or a bidder will not meet the mandatory experience requirement (as applicable) if (1) the reference customer states he or she is unable or unwilling to provide the information requested, or (2) the customer reference is not a customer of the Bidder itself (for example, the customer cannot be the customer of an affiliate of the Bidder instead of being a customer of the Bidder itself). Nor will points be allocated or a mandatory met if the customer is itself an affiliate or other entity that does not deal at arm's length with the Bidder.
- v. Whether or not to conduct reference checks is discretionary. However, if Canada chooses to conduct reference checks for any given rated or mandatory requirement, it will check the references for that requirement for all bidders who have not, at that point, been found non-responsive.

FINANCIAL EVALUATION

Unless otherwise specified in the RFP, the financial evaluation will be conducted by calculating the Total Estimated Cost using the Pricing Tables completed by the bidders. The Bidder must provide <u>ONE</u> firm, all inclusive, Cost in accordance with the bid solicitation. See Appendix "B"

2. Basis of Selection

A bid must comply with the requirements of the bid solicitation and meet all mandatory criteria to be declared responsive. The responsive bid as determined by the established pre-determined selection criteria will be recommended for contract award.

- (a) Bidders should note that all contract awards are subject to Canada's internal approvals process, which includes a requirement to approve funding in the amount of any proposed contract. Despite the fact that the Bidder may have been recommended for contract award, a contract will only be awarded if internal approval is granted according to Canada's internal policies. If approval is not granted, no contract will be awarded.
- (b) If more than one bidder is ranked first because of identical overall scores, then the bidder with the lowest bid cost will become the top-ranked bidder.

To be declared responsive, a bid must:

- a) comply with all the requirements of the bid solicitation
- b) meet all mandatory criteria.

Bids not meeting (a), and (b) will be declared non-responsive.

- 1. Mandatory Criteria (see Appendix C)
- 2. Mandatory Personnel experience (see Appendix C)
- 3. Technical Rated Criteria (see Appendix C)

Basis of Selection - Highest Combined Rating of Technical Merit 80% and Price 20%

Innovation, Science and Economic Development Canada in no way guarantees that a contract will be issued based on this bid process. Due to financial limitations, Innovation, Science and Economic Development Canada reserves the right to terminate this bid process at any time.

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws enforced in Ontario.

The contractor will be selected on the basis of the highest responsive combined rating of technical merit and price. The total proposal rating of each proposal will be calculated as follows:

Rating of Technical Proposal

Total Technical Points X 80 points Maximum Technical Points

Rating of Financial Proposal

Lowest Total Estimated Cost of all Technically Compliant Bidders X 20 points All other Total Estimated Cost of Individual Supplier bids

Total Proposal Rating

Total Proposal Rating = Technical rating + Financial Rating.

PART 3 – RESULTING CONTRACT CLAUSES

1. Statement of Work

The Contractor shall perform and complete the Work as per the statement of work at Appendix A. The Contractor will work off site.

2. Standard Clauses and Conditions

All conditions and clauses identified herein by title, number and date are set out in the <u>Standard</u> <u>Acquisition Clauses and Conditions</u> (SACC) Manual (<u>https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual</u>), issued by Public Works Government Services Canada (PWGSC).

Bidders who submit a bid agree to be bound by the instructions, clauses, and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

3. General Conditions

As per PART 1 - General Information, Item 3. - General Conditions and Clauses.

4. Contract Period

The proposed contract is from the date of contract award to March 31, 2020.

5. Contracting Authority

The Contracting Authority for this RFP and any resulting contract is Anne Nino.

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

6. Project Authority

(To be entered at contract award)

7. Contractor's Representative

(To be entered at contract award)

8. Basis of Payment – Limitation of Expenditure

The Bidder offers to Her Majesty the Queen in right of Canada to perform and complete the Work for the above named project in accordance with the Request for Proposal (RFP).

9. Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in the Province of Ontario and the relations between parties will be determine by these laws.

10. Priority of Documents

The documents listed below form part of and are incorporated into this Contract. If there is a discrepancy between the wording of one document and the wording of any other document, which appears on the list, the wording of the document, which first appears on the list, shall prevail over the wording of any document which subsequently appears on the list:

- a) The Contract document including appendices;
- b) General Conditions as per point #3;
- c) Appendix A, Statement of Work;
- d) The supplier proposal dated _____ (to be entered at contract award).

APPENDIX A – STATEMENT OF WORK

1.0 Purpose

The Communications Research Centre (CRC), a branch of the Spectrum and Telecommunications Sector (STS), Department of Innovation, Science and Economic Development Canada (ISED), has a requirement to obtain training in advanced data science techniques.

2.0 Title of Project

Data Science Training

3.0 Background

As the CRC continues to face technical challenges ranging from creating spatial visualization tools for other Spectrum and Telecommunications Sector branches to fusing spectrum data with other datasets in order to understand and predict the use of spectrum, it is becoming increasingly imperative to train our scientific staff in the use of advanced data science techniques.

In order to accelerate CRC's capability in data science, we are targeting the procurement of an intensive data science training course that has a proven track record of accelerating data science knowledge and application in other organisations.

4.0 Project Requirements / Objectives

CRC requires effective data science training for 16 of its research staff to accelerate its ability to meet the increasing demand for data science solutions to spectrum research problems and broader support requests from throughout STS and ISED.

It is expected that this training would need to be delivered by a recognised expert in the fields of artificial intelligence and machine learning. The depth of knowledge to be gained would be delivered over an estimated two weeks of instruction for all participants. Of these participants, a subset of five (5) participants would require more in-depth instruction to cover more advanced topics over another estimated two-week period. It is expected that this training would include hands-on tutorial components in order to practise the skills learned, and that it will include a group project with active mentorship from the instructor to address an existing CRC data science problem.

The total expenditures throughout the period of the resulting contract must not exceed \$300,000 projected expenditures (tax included).

5.0 Scope of Work

The contractor will provide a course on Deep Learning consisting of approximately 35% lectures and 65% practical labs and hands-on learning using either a pure Tensorflow or PyTorch framework. Participants should be coding directly using Tensorflow (a recent version not older than version 2.0) or PyTorch, not manipulating GUI elements in order to achieve results by accessing pre-canned models through SaaS/PaaS cloud elements or fully relying on a higherlevel library such as Keras. Tensorflow/PyTorch models may build on existing models from the literature but should be fully accessible and editable. Based on an assessment of our own requirements, the following target syllabus has been developed. It is expected that the training will cover an estimated four (4) 40-hour weeks. The target for the first two weeks will be to provide a strong background to a larger group of 16 employees. Of these employees, a subset of five (5) employees require a more in-depth training experience, including a capstone project using CRC datasets to progress a CRC priority under the mentorship of the instructor. The breakdown of the proposed training should be roughly as follows:

Week 1 (16 participants at CRC)

- 1. Performing classification and regression tasks using deep learning (~ 4 hours)
- 2. Finding a good representation for your data (~ 4 hours)
- 3. Introduction to Tensorflow or PyTorch (~ 8 hours), including:
 - a. Dealing with very large data sets (loading, distributed training)
 - b. Multi-GPU training
- 4. Implementing a CNN for classification and an RNN for regression using either the TensorFlow or PyTorch framework on real-world noisy data (~ 24 hours), including:
 - a. Training and monitoring deep learning models (including the use of Tensorboard)
 - b. Model interpretation
 - c. Hyper parameter tuning

Week 2 (16 participants at CRC)

- 5. Debugging and troubleshooting tips & tricks (what's going wrong with my model?) (~ 16 hours total), topics should include things such as:
 - a. Visualizing a neural network
 - b. Monitoring intermediate outputs
 - c. Regularization, activation functions, custom loss functions, and other parametersd. Data issues
- 6. Dealing with highly imbalanced datasets (~ 4 hours)
- 7. Learning rate scheduling (~2 hours)
- 8. Dealing with geospatial data (~ 6 hours)
- 9. Dealing with time-series data (~ 4 hours)
- 10. Putting ML models into production: cloud as well as edge deployment (~ 8 hours)

Week 3 (5 participants either at CRC or at a facility provided by the contractor)

- 11. Theory and practical applications of RNNs/LSTMs(~ 6 hours)
- 12. Theory and practical applications of CNNs (~ 6 hours)
- 13. Theory and practical applications of Seq2Seq (~ 4 hours)
- 14. Theory and practical applications of GANs (~ 4 hours)
- 15. Theory and practical applications of Bayesian Deep Learning (~ 4 hours)
- 16. Theory and practical applications of Attention and Transformers (~ 6 hours)
- 17. Theory and practical applications of Transfer Learning (~ 2 hours)
- 18. Theory and practical applications of Reinforcement Learning (~ 8 hours)

Week 4 (5 participants either at CRC or at a facility provided by the contractor)

- 19. Automatic architecture and hyperparameter search (~ 4 hours)
- 20. Completion of a final project with data provided by CRC. Final project should include modelling process, building a deep learning model, debugging and optimizing the model, evaluating the model, and deploying the model. (~ 36 hours)

5.1 Timing and Deliverables

All training must be completed by March 31, 2020. In the case where the last week(s) of the training will occur at the contractor's facility, there will be a mutually agreed upon break in the training between weeks 2 and 3. If weeks 3 and 4 both occur at the contractor's facility, these weeks will take place consecutively.

6.0 Contract and Schedule Changes

The Project Authority is responsible for approving any modifications to the work schedule or to the technical content of the Work.

The Contractor will not implement any changes to the Work in the Contract before the Project Authority has authorized a Change Order. The Change Order will specify the nature of the change, the time frame in which it must be carried out and any additional cost associated to the change.

A copy of the approved Change Order will be provided to the Contractor and to the Project Authority by the Contracting Authority.

6.1 Work Location

With the exception of the training provided at the CRC, the contractors are expected to work at the contractor's premises; with occasional mutually agreed upon visits to Innovation, Science and Economic Development (ISED) Canada in the National Capital Region at the Communications Research Centre, 3701 Carling Avenue, Ottawa, Ontario. Any necessary facilities will be provided by the CRC.

6.2 Travel

No travel or living expenses will be reimbursed under the contract. The Contractor will arrange its own required travel to deliver the services detailed herein.

7.0 Invoicing and Estimates

Begin work only after receiving a work order or instruction issued by the CRC Project Authority. This work order or instruction, which shall be issued only after the CRC Project Authority and the Contractor have agreed on the cost of work, confirms that the CRC has approved the order. The Contractor must advise CRC Project Authority if the cost of the work will exceed the amount of the work order issued before continuing any work which exceeds the approved order. A revised work order will be issued confirming approval to proceed.

If such approval is not received in writing by the CRC Project Authority confirming the revised work order amount, CRC will not be responsible to pay any amount exceeding the initial cost of work.

8.0 Management of the Project – Roles and Responsibilities

8.1 **Project Authority**

The Project Authority (or assigned departmental representative) has overall responsibility for the progress of the project, including management, administration and coordination of the activities as set out in this document. The Project Authority (or assigned departmental representative) is responsible for all matters concerning the technical content of the Work under this requirement.

Any proposed changes to the Scope of Work are to be discussed with the Project Authority or his/her assigned departmental representative.

8.2 Contractor

The Contractor shall establish and maintain, throughout the duration of the contract, a team capable of effectively delivering the services described in this document and in keeping with the Project Schedule.

The Contractor shall deliver the work within the time frame and assigned budget in accordance with the approved plan agreed to by the Project Authority.

8.3 Coordination with CRC

Upon contract award, the Contractor shall:

- a. Carry out services in accordance with this RFP, with directions given by the Project Authority.
- b. Correspond only with the Project Authority at the times and in the manner dictated by the Project Authority. The Contractor shall not communicate with the client department unless so authorized in writing by the Project Authority.
- c. Advise the Project Authority of any changes that may affect schedule or budget or are inconsistent with instructions or written approvals previously given. The Contractor shall detail the extent and reasons for the changes and obtain written approval before proceeding.

9.0 Security

There are no security requirements associated with this requirement.

10.0 Basis for Ownership of Intellectual Property

No intellectual property applies to this RFP.

APPENDIX B – BID AND ACCEPTANCE FORM

Project Title: Data Science Training

Note: Prices must appear in the <u>financial bid only</u>. No prices must be indicated in any other section of the bid.

1. Name and Address of the Bidder

Name: Address: Telephone: Fax: PBN (if applicable): GST/HST Registration Number:

2. Contact Person for the Purpose of the Proposal (An Authorized Representative of the Bidder)

Name:

Title:

Telephone:

Fax:

Cell:

Email address:

3. Offer

The Bidder offers to Her Majesty the Queen in right of Canada to perform and complete the Work for the above-named project in accordance with the Request for Proposal (RFP) for the Total Lump Sum Cost quoted hereunder.

3.1 Basis of Payment

Bidders must specify below the all-inclusive Lump Sum Cost for the performance of the work under any resulting contract. It is requested that bidders also specify below the applicable HST amount and the Total Lump Sum Cost.

All-inclusive Lump Sum Cost:	\$ _CAD
Applicable HST Amount:	\$ _CAD
TOTAL LUMP SUM COST:	\$ _CAD

For greater certainty, the Bidder agrees that the Total Lump Sum Cost quoted above is inclusive of all costs. The financial bid must include all costs for the requirement described in the bid solicitation for the entire Contract Period. The identification of all necessary equipment, software, peripherals, cabling, components and travel required to meet the requirements of the bid solicitation and the associated costs of these items is the sole responsibility of the Bidder.

4. Method of Payment – Resulting Contract

Monthly invoices will be submitted for payment based on value of work done contingent upon Innovation, Science and Economic Development Canada's satisfaction with the Work subject to the Project Authority's approval.

5. Insufficient Funding

In the event that the lowest compliant bid exceeds the amount of funding allocated to the Work, Innovation, Science and Economic Development Canada in its sole discretion may:

- a. cancel the solicitation; or
- b. obtain additional funding and award the Contract to the Bidder submitting the lowest compliant bid; and/or
- c. Negotiate a reduction in the bid price and/or scope of work of not more than 25% with the Bidder submitting the lowest compliant bid. Should an agreement satisfactory to Innovation, Science and Economic Development Canada not be reached, Innovation, Science and Economic Development Canada shall exercise option (a) or (b).

6. Bid Validity Period

It is understood that your proposal will remain open for acceptance for a period of not less than sixty (60) days from the closing date of the RFP.

7. Acceptance and Resulting Contract

Upon acceptance of the Bidder's offer by Canada, a Contract shall be awarded to the Contractor. The resulting Contract shall constitute the entire and only agreement between the Parties and supersedes all previous negotiations, communications and other agreements, whether written or oral, unless they are incorporated by reference into the Contract.

8. Period of the Resulting Contract

The proposed contract is from the date of contract award to March 31, 2020.

9. Acknowledgement and Certifications of the Bidder

By submitting a proposal, the Bidder agrees, acknowledges and certifies that:

- All statements and information specified in their proposal are accurate and factual, and we (the Bidder) are aware that Innovation, Science and Economic Development Canada reserves the right to verify any information provided in this regard and that untrue statements may result in the proposal being declared non-responsive. In the event that the Contractor does not comply with any statement or that it is determined that any statement made by the Contractor in its proposal is untrue, whether made knowingly or unknowingly, the Minister shall have the right, pursuant to the default provisions of the Contract, to terminate the Contract for default.
- By submitting a formal proposal in response to this RFP, the Bidder's signature indicates acceptance of the terms and conditions applicable to this RFP and any resulting Contract. ISED reserves the right to reject any proposal including any condition proposed by the Bidder that would not be, in the opinion of the Contracting Authority, in Canada's interest.

10. Signature(s)

I declare that I have the authority to bind the Bidder for all applicable purposes under this Bid and Acceptance Form.

(Signature of the authorized representative)

(Print name and title)

(Print company name)

(Date)

APPENDIX C – MANDATORY REQUIREMENTS

INSTRUCTIONS

Bidders **<u>MUST</u>** respond to the following mandatory evaluation criteria IN THE ORDER SHOWN. Any proposal which fails to meet all of the mandatory criteria will be eliminated from further consideration and will be deemed **NON-COMPLIANT**. Only information cited in the Mandatory technical grid response will be evaluated.

Bidders <u>MUST</u> provide <u>ONLY</u> the required supporting information in their technical grid response to the mandatory resource criteria listed below. Failure to follow the instructions will render the proposal **NON-COMPLIANT**.

NOTE: For evaluation purposes, each of the mandatory criteria numbers (#'s) <u>MUST</u> be mapped to the specific corresponding line items (not at the summary level) or the proposal will be deemed NON-COMPLIANT.

TECHNICAL GRID EXAMPLE:

Criteria #	Stream # – Stream Name Resource Category Name - Level X Mandatory Criteria	Required Supporting Information
Μ1	The proposal must demonstrate that the proposed resource has greater than two (2) years professional work experience developing XXXXXX.	Project # Industry Canada – XYZ Project January 2015 – May 2015 5 months Project # Industry Canada – ABC Project September 2012 - December 2014 2 years 4 months Total: 2 years 9 months

Criteria #	Mandatory Criteria	Required Supporting Information		
MANDATC	MANDATORY CORPORATE REFERENCES AND CERTIFICATIONS			
M1	The bidding organization has had data science as a core and fundamental aspect of their work for at least the past 5 years.	Provide proof of deployment of more than 500 in-house created ML models over the past 5 years, with number of ML models deployed per year.		
M2	The bidding organization has delivered data science training of a minimum duration of 120 in- class hours to a minimum of 20 distinct groups of enterprise-grade clients.	Provide a list of clients with dates of training.		
М3	The bidding organization must provide contact information for a minimum of 5 enterprise-grade clients who have received data science training of a minimum duration of 120 in-class hours. Three of these clients will be contacted for a reference.	Contact information for a minimum of 5 enterprise-grade clients who have received data science training of a minimum duration of 120 in-class hours.		
М3	The bidding organization agrees that the training to be provided will cover all of the following topics:	Detailed syllabus clearly showing how each of these topics will be covered.		

	Performing classification and regression tasks	
	using deep learning Students to learn how classification and regression	
	tasks are performed using deep learning networks.	
	Finding a good representation for your data Students to learn how to cast a problem into a format appropriate for a DL network.	
	Hands-on introduction to Tensorflow or PyTorch Students to learn how to load data, create basic model, evaluate performance of model using either Tensorflow or PyTorch	
	Hands-on training creating an RNN or CNN model using Tensorflow or PyTorch Students to learn how to solve a classification task using a CNN on real-world noisy data or how to solve a task using an RNN on sequenced data	
	Dealing with very large datasets Students to learn techniques for dealing with very large datasets, including hands-on training covering loading large datasets into Tensorflow or PyTorch and distributed training	
	Training and monitoring deep learning models Students to learn how to train a DL model, including how to monitor the learning achieved by their models. Includes a lab component where students train a model and monitor its progress under different hyperparameter conditions.	
	Hyperparameter tuning Students to learn various methods for optimizing hyperparameters, including a lab component where they use an algorithm such as grid search or random search in order to find optimal hyperparameters for a DL model.	
	Debugging and troubleshooting DL models Students to learn tips and techniques for debugging and troubleshooting DL models. Such as: common pitfalls, data issues to look out for, how to use visualization and monitoring tools to find problems, increasing accuracy (e.g. changing hyperparameters, activation functions, regularization, and/or custom loss functions)	
	Putting ML models into production Students to learn how to deploy models in the cloud and serve results. Including a lab component where they deploy a model in a cloud environment and serve inferences.	
	In-depth theory and practical application of RNNs/LSTMs.	
	In-depth theory and practical application of CNNs.	
M4	The bidding organization agrees that it will provide students with a learning environment for hands-on	Provide a statement confirming that the bidding organization is able to provide

I

	 tutorials that includes, for each student, at a minimum: a) Access to contractor-owned VMs preloaded with applicable software (Tensorflow or PyTorch) with scalable amounts of RAM and GPU/TPU units at no additional cost b) Access to real-world noisy datasets that contain millions of individual records 	this learning environment.
M5	The primary instructor for the training must have worked in the data science field for at least the last five (5) years.	Provide Resumes for all individuals who are candidates to be the primary instructor(s) for the training.
M6	The primary instructor for the training has delivered data science training of a minimum duration of 120 in-class hours to a minimum of 10 distinct groups of enterprise-grade clients.	Provide a list of clients and dates of training.
M7	The bidding organization agrees that it will provide a course on Deep Learning consisting of approximately 35% lectures and 65% practical labs and hands-on learning using either a pure Tensorflow or PyTorch (a recent version not older than version 2.0) framework. The course is to be taught in English.	Provide a statement confirming that the bidding organization is able to provide such a course.

POINT RATED REQUIREMENTS - TECHNICAL PROPOSAL:

INSTRUCTIONS

Bidders **MUST** respond to the following point-rated evaluation criteria IN THE ORDER SHOWN. Only information cited in the Point-Rated technical grid response will be evaluated.

Bidders <u>MUST</u> provide <u>ONLY</u> the required supporting information in their technical grid to the point-rated resource criteria listed below. Failure to follow the instructions will render that line-item (row) of the point-rated evaluation criteria a score of zero.

NOTE: For evaluation purposes, each of the mandatory criteria numbers (#'s) <u>MUST</u> be mapped to the specific corresponding line items (not at the summary level) or the proposal will be deemed NON-COMPLIANT.

TECHNICAL GRID EXAMPLE:

Criteria	Point Rated Criteria	Required Supporting	Max
#		Information	Points
NM1	Multi-GPU training Students to be taught how to grain their DL models on multiple GPUs/TPUs simultaneously. 2 points for coverage of Multi-GPU training concepts 3 points for lab where students implement practical example of Multi-GPU training	Coverage of Multi-GPU training Week 1, day 3 See page XX of detailed course syllabus. Lab on Multi-GPU training Week 1, day 4 See page XX of detailed course syllabus.	5 points

Criteria #	Point Rated Criteria Additional Desired Course Content	Required Supporting Information	Max Points
NM1a	Multi-GPU trainingStudents to be taught how to grain their DL models on multipleGPUs/TPUs simultaneously.2 points for coverage of Multi-GPU training concepts3 points for lab where students implement practical example of Multi-GPU training	Detailed course syllabus indicating lecture topics as well as topics for practical labs	5 points
NM2a	 Tensorboard Students to learn how to use Tensorboard to visualize the network and monitor learning. 3 points for coverage of Tensorboard 7 points for lab where students use Tensorboard to visualize a network, and monitor network performance by examining scalar, histogram, and image outputs. 	Note: one practical lab may cover more than one topic and therefore be counted towards point	10 points
NM3a	Dealing with highly imbalanced data sets	values for	10 points

	Students to learn techniques to deal with classification tasks where the distribution of classes within the training data is highly imbalanced.	multiple (NM#a) criteria.	
	3 points for coverage of techniques to deal with imbalanced data sets.		
	7 points for lab where students implement techniques to classify an unbalanced data set.		
NM4a	Visualizing a neural network Students learn techniques to visualize the structure of their models and to extract visualizations that will help with debugging models (e.g. layerwise output visualization)		5 points
	1 point for coverage of visualization of model architecture		
	2 points for coverage of visualization techniques useful for debugging CNNs.		
	2 points for coverage of visualization techniques useful for debugging RNNs or LSTMs.		
NM5a	Regularization and activation functions Students to learn theory and applications of regularization techniques such as L2 & L1 regularization, dropout, early stopping, and data augmentation. Students to learn theory and applications of activation functions such as tanh, ReLU, leaky ReLU, softmax, sigmoid.		5 points
	1 point for coverage of activation functions and regularization		
	2 points for lab where students implement regularization		
	2 points for lab where students explore the impact of different activation functions		
NM6a	Learning rate scheduling Students to learn how to schedule the learning rate, and when this could be usefully applied.		2 points
	2 points for lab where students implement learning rate scheduling		
NM7a	Dealing with geospatial data		5 points
	Students to learn techniques for dealing with geospatial datasets including both vector and satellite imagery formats. Object detection, semantic segmentation, ANNK (Artificial Neural Network Kriging)		
	2 points for coverage of techniques to deal with geospatial data sets.		
	3 points for lab where students use geospatial data in a DL model.		
NM8a	Dealing with time series data		10 points
	Students learn techniques for time series forecasting, including how to transform data properly for a time series problem, feature extraction, and how to forecast n steps ahead.		

]
	3 points for coverage of techniques to deal with time series data.	
	7 points for lab where students forecast from time series data using a DL model.	
NM9a	Custom loss functions	2 points
	Students will learn how to define and implement a custom loss function for their model.	
	2 points for lab implementing custom loss function.	
NM10a	GANs Students to learn theory and application of Generative Adversarial Networks (GAN)s	5 points
	3 points for coverage of the theory and application of GANs	
	2 points for hands-on training involving building, training, or optimizing a GAN.	
NM11a	Bayesian Deep Learning Students to learn theory and application of Bayesian Deep Learning	5 points
	3 points for coverage of the theory and application of Bayesian Deep Learning.	
	2 points for hands-on training where students use a Bayesian Deep Learning network to preform inference.	
NM12a	Attention and Transformers Students to learn theory and application of attention for DL models, and how the transformer model uses attention.	5 points
	3 points for coverage of the theory and application of attention and transformers.	
	2 points for hands-on training where students implement a transformer model.	
NM13a	Transfer Learning Students to learn theory and application of Transfer Learning	5 points
	3 points for coverage of the theory and application of transfer learning.	
	2 points for hands-on training where students use transfer learning to reuse a base model for a second task.	
NM14a	Deep Reinforcement Learning Students to learn theory and application of Reinforcement Learning	10 points
	7 points for coverage of the theory and application of reinforcement learning.	
	3 points for hands-on training where students train an agent to perform a task using Deep Reinforcement Learning.	
NM15a	Seq2Seq Students to learn theory and application of Seq2Seq	5 points

P		
	3 points for coverage of the theory and application of Seq2Seq.	
	2 points for hands-on training where students use Seq2Seq to solve a translation, summarization, or captioning task.	
NM16a	Automatic architecture and hyperparameter search Students to learn theory and application of automatic architecture and hyperparameter search.	5 points
	3 points for coverage of the theory and application of automatic architecture and hyperparameter search.	
	2 points for hands-on training where students use architecture search to design an artificial neural network.	
NM17a	Deploying ML models at the edge Students to learn how to deploy ML models on edge devices.	5 points
	2 points for coverage of edge deployment techniques for DL models.	
	3 points for hands-on training where students use either Tensorflow Lite or Pytorch Mobile to deploy a model to an edge device.	
NM18a	Model interpretation Students to learn how to interpret the results of their model.	10 points
	4 points for coverage of model interpretation	
	3 points for hands-on training where students extract feature attribution graphs from a DL model.	
	3 points for hands-on training where students extract saliency or occlusion maps or feature attribution from a DL model.	

Criteria #	Point Rated Criteria Additional Organizational Assessment Criteria	Required Supporting Information	Max Points
PR1	Years of demonstrated organizational experience in data science. >11 years = 25 points >9 years up to 11 years = 20 points >7 years up 9 years = 15 points >5 years up to 7 years = 10 points	Provide proof of deployment of more in-house created ML models over organization's history, with number of ML models deployed per year.	25 points
PR2	Number of distinct sessions of data science training of at least 120 hours taught by the organization to enterprise-grade clients. >75 sessions = 25 points	Provide a list of clients with dates of training.	25 points

	 >50 sessions up to 75 sessions = 20 points = 20 points >30 sessions up to 50 sessions = 15 points = 15 points >20 sessions up to 30 sessions = 10 points 		
PR3	From list of provided references, three will be contacted. 5 points will be awarded for each reference who answers the following question with a 'yes' response:	Provide contact information for a minimum of 5 enterprise-grade clients who have received data science training of a minimum duration of 120 in-class hours.	15 points
	Would you recommend this bidder as a provider for advanced hands-on data science training covering deep learning consisting of 160 hours of instruction?		

Point Rating Technical Criteria:

The Point Rated Criteria contained herein will be used by Canada to evaluate Proposals that have met all of the Mandatory Technical Criteria. Contractors are to address these requirements in sufficient depth in their offers to enable a thorough assessment. The Evaluation Team will base its evaluation solely on the information presented in the Offer.

FINANCIAL PROPOSAL:

Contractors must complete and submit the Financial Submission form: See Appendix B

CONTRACTOR SELECTION METHOD:

The contractor selection method will be determined on the basis of the following steps:

Basis of Selection - Highest Combined Rating of Technical Merit 80% and Price 20%

- Only those meeting all of the Mandatory Requirements and provided information required for the point Rated Requirements Evaluation will be deemed compliant and will be considered to proceed with the opening of the Financial Submission.
- To arrive at an overall Total Score achieved by a compliant contractor, a weighting has been established whereby technical merit will be valued at 80% and price will be valued at 20%.
- The calculation used to determine the contractor's Total Score will be:

The contractor will be selected on the basis of the highest responsive combined rating of technical merit and price. The total proposal rating of each proposal will be calculated as follows:

Rating of Technical Proposal

Total Technical Points	Х	80 points
Maximum Technical Points		

Rating of Financial Proposal

<u>Lowest Total Estimated Cost of all Technically Compliant Bidders</u> X 20 points All other Total Estimated Cost of Individual Supplier bids

Total Proposal Rating

Total Proposal Rating = Technical rating + Financial Rating.

APPENDIX D – ADDITIONAL INFORMATION

Bidders must provide the required additional information to be awarded a contract.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's information. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority will render the bid non-responsive or constitute a default under the Contract.

1.0 Legal Entity and Corporate Name

- 1. The bidder hereby certifies that it is a (circle one):
 - a. sole proprietorship;
 - b. partnership; or
 - c. corporate entity.
- 2. It was registered or formed under the laws of
- 3. Controlling interest/ownership (name if applicable) of the organization is held in the country of
- 4. Any resulting Supply Arrangement or Contract may be executed under the following corporate full legal name and at the following place of business:

1.1 Attestation – Former Public Servant

Contracts with former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts with FPS, bidders must provide the information required below.

1.1.1 Definitions

For the purposes of this clause, "former public servant" is any former member of a department as defined in the *Financial Administration Act*, R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police. A former public servant may be:

- a. an individual;
- b. an individual who has incorporated;
- c. a partnership made of former public servants; or
- d. A sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.

"Lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

"Pension" means, a pension or annual allowance paid under the <u>Public Service Superannuation</u> <u>Act</u> (PSSA), R.S., 1985, c.P-36, and any increases paid pursuant to the <u>Supplementary</u> <u>Retirement Benefits Act</u>, R.S., 1985, c.S-24 as it affects the PSSA. It does not include pensions payable pursuant to the <u>Canadian Forces Superannuation Act</u>, R.S., 1985, c.C-17, the <u>Defence</u> <u>Services Pension Continuation Act</u>, 1970, c.D-3, the <u>Royal Canadian Mounted Police Pension</u> <u>Continuation Act</u>, 1970, c.R-10, and the <u>Royal Canadian Mounted Police Superannuation Act</u>, R.S., 1985, c.R-11, the <u>Members of Parliament Retiring Allowances Act</u>, R.S., 1985, c.C-8.

1.1.2 Former Public Servant in Receipt of a Pension

As per the above definitions, is the Bidder a FPS in receipt of a pension? Yes () No ()

If so, the Bidder must provide the following information, for all FPS in receipt of a pension, as applicable:

- a. name of former public servant;
- b. Date of termination of employment or retirement from the Public Service.

By providing this information, Bidders agree that the successful Bidder's status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of the published proactive disclosure reports in accordance with <u>Contracting Policy Notice</u>: <u>2012-2</u> and the <u>Guidelines on the Proactive Disclosure of Contracts</u>.

1.1.3 Work Force Reduction Program

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of a work force reduction program? **Yes** () **No** ()

If so, the Bidder must provide the following information:

- a. name of former public servant;
- b. conditions of the lump sum payment incentive;
- c. date of termination of employment;
- d. amount of lump sum payment;
- e. rate of pay on which lump sum payment is based;
- f. period of lump sum payment including start date, end date and number of weeks;
- g. Number and amount (professional fees) of other contracts subject to the restrictions of a work force reduction program.

For all contracts awarded during the lump sum payment period, the total amount of fees that may be paid to a FPS who received a lump sum payment is \$5,000, including Applicable Taxes.

2.0 Attestation

By submitting a bid, the Bidder certifies that the information submitted by the Bidder in response to the above requirements is accurate and complete.

ATTESTATION SIGNATURE

We hereby certify compliance with the above noted certification requirements for:

- FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY BID CERTIFICATION;
- B. LEGAL ENTITY AND CORPORATE NAME;
- C. CODE OF CONDUCT FOR PROCUREMENT;
- D. ATTESTATION FORMER PUBLIC SERVANT.

(Signature of the authorized representative)

(Print name and title)

(Print company name)

(Date)