Subject: IMPLEMENTING GUIDELINES FOR "**The DOST Summer School on Artificial Intelligence"**

I. Coverage

This program shall be called "The DOST Summer School on Artificial Intelligence", aimed at training college professors, students and government information technology practitioners on the theory and applications of machine learning methodologies. The course will run for 7.5 days including a one-day conference on AI for universities and researchers. Each topic offered has a lecture component complemented with teacher-assisted programming exercises to reinforce key concepts and apply the algorithms to solve a relevant problem.

II. Who are eligible to apply:

The training is open to any individual who possess the following qualifications:

- A Filipino citizen
- At least a bachelor's degree holder in any Science or Engineering field, preferably Physics, Math, Electronics Engineering or Computer Science or other related courses
- High level programming proficiency in any programming language preferably Python
- Proficient in Calculus and Statistics
- Must have a laptop computer
- Good mental, emotional, and physical health
- Not more than 40 years old on the time of application

III. Entitlements

The grant shall cover the following:

- Training expenses
- Economy roundtrip airfare/land transportation from residence to hotel
- Living expense (accommodation and food)

IV. Documentary requirements

- Accomplished application form and Questionnaire
- Curriculum Vitae
- Certificate of employment or service record (if applicable)
- Copy of birth certificate or passport
- Copy of diploma
- Medical Certificate

V. Grantees' Responsibilities

1. The grantee shall complete the training program within the approved duration.

2. The grantee shall conduct themselves professionally and use the knowledge gained in this training in the interest of the public good.

3. Upon completion of the program, the grantee shall stay in the Philippines to render a six (6) month service obligation.

   Any service rendered before completion of the training program shall not be considered as part of the return service.

4. The grantee shall acknowledge the support of DOST-PCIEERD in all reports and any publication arising from the training, a copy of which should be provided to PCIEERD.

VI. Screening and evaluation

1. Application documents in electronic copies must be submitted to the:

   Philippine Council for Industry, Energy and Emerging Technology Research and Development (PCIEERD)
   Email Address: DOSTSummerschool@gmail.com
   Email Subject: DOST Summer School Application

   ***Applications with incomplete documents will not be entertained**.

2. Applications with complete documentary requirements must be submitted on or before **May 15, 2017**. Late applications will not be processed.

3. A Project Management Committee (PMC) chaired by the PCIEERD Executive Director will serve as the policy-making body and at the same time make recommendations for cases not covered by the Guidelines.

4. Applications will be initially screened based on paper evaluation, after which, a short list will be made which will be the basis for the final list of applicants.

5. Qualified applicants may be required to submit hard copies of the application documents as may be deemed necessary.

6. All grants shall be subject to availability of funds and the accounting and auditing rules and regulations.

Course Outline:

1. Python Programming and NumPy

- iPython Notebook
- Variables and Data Types; Control Statements
- Lists and Dictionaries
- Functions and Classes
- File and Exception Handling
- Vectors, Matrices and Vectorized Computation
- Data Formats
- Data Visualization

2. Overview of Machine Learning

- What is Machine Learning and what are its applications?
- Supervised, Unsupervised, Reinforcement Learning
- Logistic Regression and Decision Tree Examples
- Underfitting, Overfitting
- Training, Testing and Validation
- Accuracy, Precision and Recall, Confusion Matrix,

3. Naïve Bayes

- Naïve Bayes and its Applications
- Implementing a Naïve Bayes Spam Filter

4. Neural Networks

- Perceptron; Gradient Descent
- Multilayer Perceptron
- Principal Component Analysis
- Implementing a Neural Network Face Recognizer

5. Support Vector Machines

- Basic Optimization; The Kernel Trick
- Support Vector Machines and Applications
- Implementation of SVM Phoneme Recognizer

6. Mini-Projects

- Application of ML methods to publicly available datasets

The summer course will adopt the “learning by building” approach through a tightly-integrated lecture and laboratory module for each of the topics. Programming exercises and coding assignments will reinforce the key concepts presented in the lectures.

Republic of the Philippines
Department of Science and Technology
PHILIPPINE COUNCIL FOR INDUSTRY, ENERGY AND EMERGING TECHNOLOGY RESEARCH AND DEVELOPMENT (PCIEERD)

The DOST Summer School on Artificial Intelligence

APPLICATION FORM

Name of Applicant	
Current Position	
Institutional affiliation	
Office Address	
Email Address	
Contact No.	

1 Title of Training Attended/Conducted related to AI (if any)

Host				
Title of Event				
Position / Delegation				
Address				
Inclusive Dates	From (mm/dd/yyyy):		To (mm/dd/yyyy):	

2 Trainee Information

PERSONAL INFORMATION

Gender	Male ☐ Female ☐		Age			
Birthdate	Month		Date		Year	
Birthplace						
Citizenship						
Home Address						

EDUCATIONAL INFORMATION

Level	Name Of School	Degree/Course	Highest Level/Units Earned (if not graduated)	Year Graduated	Scholarship/ Academic Honors Received
College					
Graduate Studies					
MS					
PhD					

EMPLOYMENT DETAILS (if any)

Current designation	
Inclusive dates	

Brief description of duties and responsibilities (use additional sheet, if necessary)

3 Refereed Publication(s) or Undergrad/Grad Thesis Paper

Title	Name of Publication/ Journal	Brief Description	Year Published	Programming language and Software/ Development Application Tool used (if any)

I hereby certify that the above information is true and correct to the best of my knowledge. I also hereby signify my intent to undergo and complete the training. I attest that I am aware of the six (6) months service obligation through service in any private or government institution in the Philippines or through engagement in S&T entrepreneurial activities in the country.

_____
Signature over printed name

_____
Date

Endorsed by:

_____
Signature over printed name
(Sending Institution)

Technical Assessment Survey Form

NAME OF APPLICANT	
INSTITUTIONAL AFFILIATION	

LEVEL OF PROFICIENCY

Level Indicator: Five (5) – Expert One (1) – Novice

PROGRAMMING LANGUAGE (PL)

List the Programming Language you know and rate your technical proficiency from 5 (expert) to 1 (novice).

In 100 words or less, describe the most complex program you wrote independently in the language in which you are most proficient.

Technical Assessment Survey Form

STATISTICS
Rate your proficiency in statistics from 5 to 1
In 100 words or less, describe the most complex statistical analysis that you have performed.
CALCULUS
Rate your proficiency in calculus from 5 to 1.
In 100 words or less, describe the most complex calculus analysis that you have performed.

Technical Assessment Survey Form

In 200 words, explain how will you benefit from the Artificial Intelligence training course.

I hereby certify that the above information is true and correct to the best of my knowledge.

_____
Signature over printed name

_____
Date

Endorsed by:

_____
Signature over printed name
(Sending Institution)

**NOTE: Please have your endorser sign on each page of this assessment form.*