Future Online AI Training Program

Background

Recently, with developments in deep learning, AI has become one of the hottest themes around the world. In order to win the race, ICT companies are putting huge amounts of resources into developing AI. As a result, demand for AI engineers has grown enormously worldwide.

Future Corporation is one of the leading ICT consulting companies in Japan. Future Corporation requires much more resources in its efforts to expand AI solutions to business. Hence, Future Corporation is devising possible ways of developing and utilizing resources that are available in the other countries.

The Rwandan government has been focusing on ICT human resource development, which has increased the potential for finding excellent engineers in the Rwandan market. Future Corporation started a feasibility study with financial support from JICA to explore the possibility of utilizing resources in Rwanda to support our activities.

As a part of the feasibility study, Future Corporation will conduct a trial AI training Program. Ph.D. Students from Rwanda studying at Japanese Universities will provide on-line training to students and young ICT engineers in Rwanda. AI training provides courses on the fundamentals of machine learning and deep learning, and practical hands-on training, such as on coding, to build machine learning and deep learning models. AI training will provide opportunities for students and young ICT engineers to gain the necessary practical skills required of AI engineers.

This will be a trial phase and the number of the trainees will be limited. Only selected students or young ICT engineers can receive training. We expect a lot of students and young ICT engineers to apply for training.

Basic concept behind conducting the course

1. Students and young ICT engineers attend or take on-line classes from a university or K-lab/Fab-lab in Kigali.
2. 15 classes are provided.
3. One class consists of a one-hour on-line lecture, hands-on training, and homework.
4. Trainees can take classes free of charge.

Target trainees and number

1. Students studying in a master course and young ICT engineers who have graduated from the university (must have a bachelor degree).
2. Six students or young ICT engineers are selected for training
3. If an applicant is selected, he or she should attend the opening ceremony and guidance (tentatively scheduled for August 8 or August 9)

Schedule

1. Training is conducted between August and September (in the case of a delay in progress, until October).
2. Two classes are conducted a week.
3. In the case of absence, classes are moved to the next available dates.
4. Assessments are conducted in September and October

* The Schedule is subject to change

Invitation and selection

1. Brochure is circulated by e-mail to cooperating educational institutions at the beginning of July.
2. Applicants submit their applications by July 19.
3. Initial selection is conducted from July 20 until July 24.
4. Interviews are conducted from July 29 until August 2.
5. Future Corporation contacts and meets selected students.
6. Opening Ceremony and guidance are conducted on August 8 or 9.

Selection criteria

<Fundamental>

1. Good academic grades
2. Willingness to work in the private sector.
3. Experience with programing language
4. Access to a computer (e.g. own a personal computer or have access to a computer at a university).

<Advantage>

5. Previous participation at a data science conference is an added advantage

Interview process

1. Interviews are conducted by Future Corporation staff together with trainers (Some interviewers will join the interview online.)
2. Future Corporation sends AI-related academic papers in advance to candidates (selected from applicants)
3. Some interview questions are generated from the academic papers to check the candidates' skills in reading and understanding scientific papers.

Assessment of results

1) Interim Assessment

- Preliminary assessment is conducted in September
- Future Corporation staffs check how trainees are learning on-line.
  - Visit students during on-line training and monitor training.
  - Interact with students to learn about progress, challenges (difficulties), and suggestions, etc.

2) Final Assessment

- Second assessment is conducted in October
- Future Corporation staffs check the students' results.
- Future staff give sample tasks, such as:

- AI-OCR
- Visual Recognition (distinguish a specific photo from other photos)
- Kaggle Competition

*tasks are set according to the results of an interim assessment.

Certificate

After training is completed, a certificate is provided by Future Corporation.

Application

Applicants should submit the following documents when applying to Future Corporation.

Documents required when applying

1. Cover letter (why you are interested in taking online AI training
2. Application form (use template attached.)
3. Copies of academic certificate and records (undergraduate school)

All documents are to be sent to the following e-mail address.

Online AI Training Team

team-rwanda@future.co.jp

Submission Deadline: July 19

Contact Information

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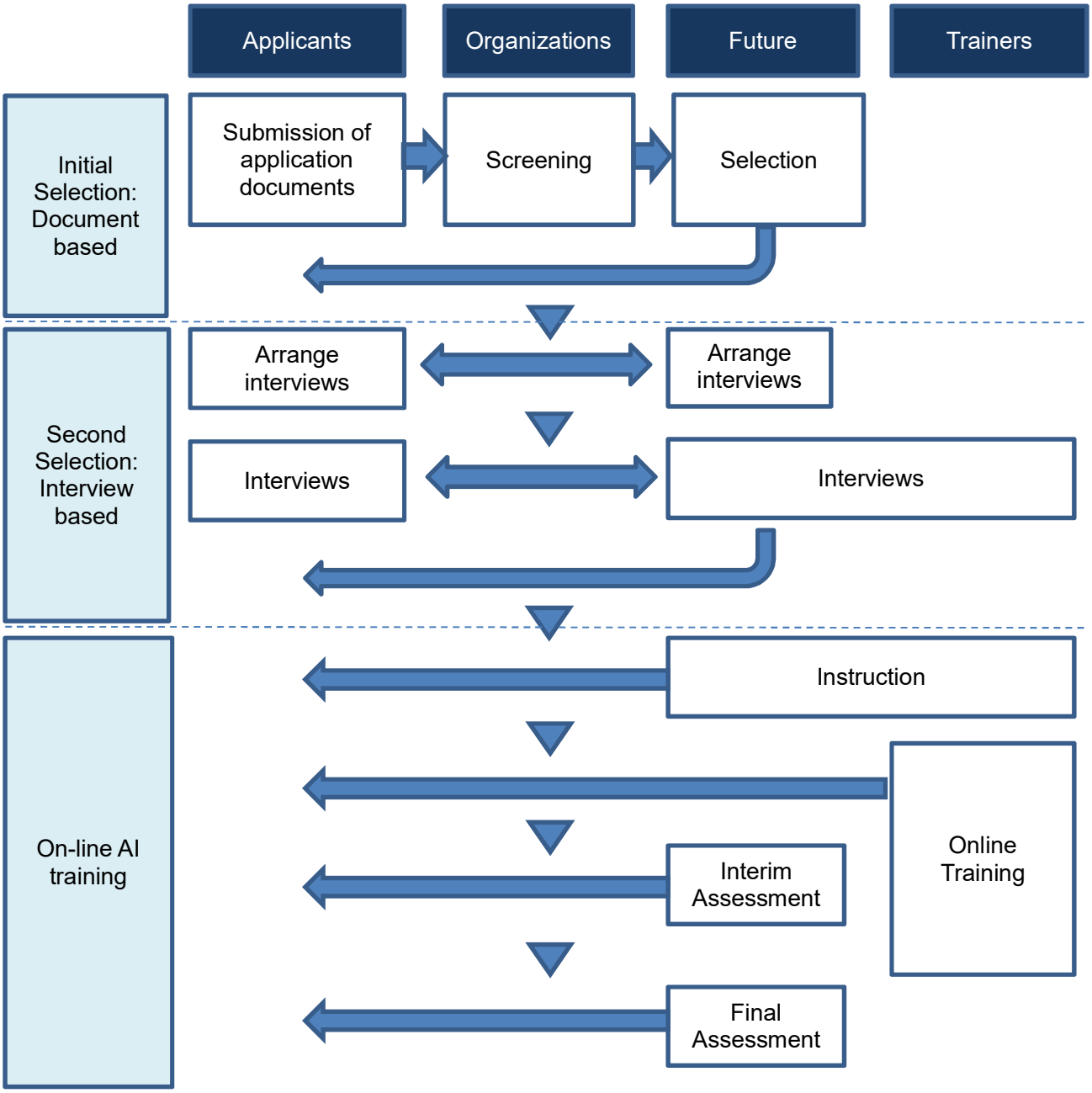
Figure: Application Procedure, Selection, and Training



Course Outline

Class 1	Introduction
Class 2	Python Fundamentals
Class 3	Basic Data Processing with Pandas
Class 4	Statistical Analysis in Python
Class 5	Setting up Python for ML
Class 6	Getting started in scikit-learn
Class 7	Training a ML model with scikit-learn
Class 8	ML models comparison in scikit-learn
Class 9	Data science pipeline
Class 10	Evaluating classification model
Class 11	Introduction to Deep Learning
Class 12	The Python Imaging Library
Class 13	Tesseract and Optical Character Recognition
Class 14	Computer vision with openCV
Class 15	Introduction of Kaggle

Follow-up class* Follow-up with hands-on practical exercises