BDV

Data Science Analytics Badge
Academic Level

GUIDELINES FOR REVIEWERS

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1. INTRODUCTION

Applicants to issue the Academic Level of the Data Science Analytics Badges there are required to submit applications according to the published guidelines (see the *BDV Data Science Analytics Badge Academic Level INFORMATION AND GUIDELINES FOR APPLICANTS* document available on the badge program's web page: http://www.big-data-value.eu/skills/skills-recognition-program/). Each application will be reviewed and a final decision will be made regarding whether each program can issue the badge.

This document describes the role and activities of the reviewers of these applications.

The skills required for the Data Analytics Badge are described in Table 1.

Data Science Analytics Badge v1-0 – Academic Level
Required skills
DSA.1. Identify existing requirements to choose and execute the most appropriate data discovery techniques to solve a problem depending on the nature of the data and the goals to be achieved.
DSA.2. Select the most appropriate techniques to understand and prepare data prior to modeling to deliver insights.
DSA.3. Assess, adapt, and combine data sources to improve analytics.
DSA.4. Use the most appropriate metrics to evaluate and validate results, proposing new metrics for new applications if required.
DSA.5. Design and evaluate analysis tools to discover new relations in order to improve decision-making.
DSA.6. Use visualization techniques to improve the presentation of the results of a data science project in any of its phases.

Table 1. BDV Data Science Analytics Badge Skills

2. REQUIREMENTS FOR REVIEWERS

All reviewers must sign and adhere to the *Code of Conduct*.

3. EVALUATION GUIDELINES FOR THE ACADEMIC LEVEL OF THE DATA SCIENCE ANALYTICS BADGE

Only approved programs can issue the Academic Level of the BDV Data Science Analytics Badge. To obtain this approval, a program must apply by providing evidence to show how they can ensure that their students acquire the corresponding skills.

To simplify the application process, the *BDV Data Science Analytics Badge Academic Level Template for Issuing Badges* is provided to applicants to help them collect specific details about how each of the skills required by the badge are acquired by the program's students. The template also includes some general information about the program. Reviewers will be provided with the completed applications and the attached files containing the corresponding evidence.

Each application will be independently reviewed by two experts that will assess the submitted application as well as the evidence files. A final decision will be made if their recommendations coincide. If the two reviewers are not able to reach a consensus, a third reviewer will be asked to participate in the process.

3.1. General Guidelines

All reviews must be submitted in English.

If an application contains evidence files which cannot be understood by the reviewer for language reasons, then the reviewer can request that the BDV contact the applicant to provide a translation of the document.

Reviewers should be anonymous and should not provide any information in their reviews which could allow them to be identified.

Reviewers are given a deadline to complete their reviews, failure to submit the reviews in the given time period can result in their exclusion as reviewers.

A reviewer must notify the BDV and not submit a review if there could exist a conflict of interest as described by the Code of Conduct.

3.2. Criteria for Evaluation

Reviewers will complete the corresponding evaluation form, the *Data Science Analytics Evaluation Template*.

Based upon the information presented, the acquisition of each of the skills of the Data Science Analytics Badge in an application will **scored** as follows by each reviewer**:**

- 0 — Fail: The application fails to address the skill or the acquisition of the skill cannot be assessed due to missing or incomplete information. ('Obvious clerical errors' are not considered to result in incomplete information.)

- 1 — Poor: the skill is inadequately addressed or there are serious inherent weaknesses.
- 2 — Fair: the application broadly addresses the skill but there are significant weaknesses.
- 3 — Good: the application addresses the skill well but with a number of shortcomings.
- 4 — Very good: the application addresses the skill very well but with a small number of shortcomings.
- 5 — Excellent: the application successfully addresses all relevant aspects of the skill; any shortcomings are minor.

Such scores will be assigned based upon the following **criteria**:

- Is the average total number of hours that a student dedicates to the skill sufficient?
- Are the activities chosen to evaluate the skill appropriate for determining whether a student has acquired the skill?
- Is the level of achievement expected of students in line with industry's expectations for new graduates?
- In each evaluation activity, is there a clear description of the tasks that will be performed, for students to obtain the skill?

When scoring the previous criteria the following **must be taken into consideration:**

- The application will be evaluated as submitted – evaluations are not based upon the possibility of the result of certain changes.
- Re-submissions will be evaluated as if it were the first time they are submitted, i.e., avoid comparison with previous versions of the application.
- Evaluators will not give a 5 if they identify any shortcomings or even worst, in the case of weaknesses.
- If no shortcomings are mentioned for a specific skill, then awarding 3 or less would not be appropriate.
- If evaluators use the term "weakness" in describing their opinion about a skill, then the score for that skill cannot be above 2.

Reviewers will also provide comments justifying or discussing the scores for each skill. Two kind of comments can be provided:

a) Comments given to the applicant. Those comments represent the rationale behind the score of each skill and will be shared with the applicant.
b) Additional information not shared with the applicants. Non public comments that the reviewer might want to provide to the BDV regarding his/her score for each of the skills.

Each reviewer will provide a **Final Score** for the application by summing up the scores of each of the skills. The reviewer recommends that the applicant program be able to issue the badge if the program is awarded a total of at least 20 points and no skill is scored as less than 3. If the final score of an application is between 20 and 24, the reviewer has the option to recommend that the badge issuing period of the program be limited and that the program be required to resubmit another application to issue badges in the following year.

Finally, the reviewer will provide an **Overall Recommendation for Improvement** with a summary of his/her evaluation. This overall recommendation should be consistent with the final score provided and will be given to the applicant.

3.3. The Final Decision

Once reviewers have finished their reviews, they will submit their recommendations to the BDV. The BDV will process these recommendations and make a final decision regarding the application. There are four possible **Final Decisions** for each application:

- Application Accepted = there is no doubt that the program provides the data science analytics skills. The program is granted permission to issue the badge for four years.
- Application Accepted with Recommendations = the program provides the data science analytics skills, but needs some improvements. The program is granted permission to issue the badge for one year, and needs to resubmit its application within a year.
- Application Rejected with the possibility of revision = there is not enough evidence provided in the application to show that the program adequately provides the required data science analytics training, but this could possibly be due to missing or incomplete information. The program is given the opportunity to resubmit a revised version of the application.
- Application Rejected: there is not enough evidence to show that the program adequately provides the required data science analytics training.