BUas Research Ethics Review Application Form

v1.1

N.B. The assessment by the BUas Research Ethics Review Board will be conducted in compliance with the Standards for Good Research Practices, from: Netherlands Code of Conduct for Research Integrity (2018). An overview of these standards is included to this form as an appendix, for the applicant's convenient reference.

A - GENERAL INFORMATION		
REVIEW APPLICATION FORM – registration code:	**N.B. WILL BE ENTERED BY REVIEW BOARD** *REGISTRATION CODE: < Project # (YY/MM + order of receipt)-REV (review application form)-serial# in document sequence-IP (in progress) or CC (case closed) → e.g. 2101-01-REV-01-IP>*	
REQUEST FOR:	(NON-BINDING) ADVICE *<mark bold / underlined if selected>*	CRITICAL REVIEW / ASSESSMENT *<mark bold / underlined if selected>*
Date of Review Application Submission:		

B – APPLICATION PACKAGE	
List of documents included with the application (i.e. the input for the committee's advice / assessment)	Data management plan

C - PERSONAL INFORMATION APPLICANT	
Name of applicant (lead researcher):	Szewczyk, Dominik; Senior, Imani; Vladimirov, Martin; Nedyalkov, Matey; Dimitrova, Simona
e-Mail address:	
BUas Department (Research Group):	Data Science and artificial intelligence students (Team Facility)
External parties involved (individuals or groups from other universities, organizations):	None

Application approved by professor or research group leader (if applicant does not have this role him-/herself):	*<name, date>*

D - RESEARCH PROJECT DESCRIPTION	
Name of Research Project:	Perspectives and Insights on AI implementation within Facility Management
Projected Project Duration:	8 weeks
Research Project Rationale (i.e. what is the intended goal, the 'point' of the research project? This brief description helps to establish the interpretation frame for the review board)	The goal of the project is to help facility management program at Buas to integrate AI in their curriculum.
Brief Overview of Methods (i.e. what will be done with/to research project participants / respondents / informants):	It will be implemented mixed method for the research, which includes qualitative and quantitative – interviews and surveys respectively.

E - ADVICE AND ASSESSMENT ELEMENTS

(Approval by the Research Ethics Review Board is conditional on the accuracy of the information presented below. The overarching assessment framework of values and standards is in compliance with the 2018 *Netherlands Code of Conduct for Research Integrity* – see appendix for the core standards)

E0 – Preliminary Risk Assessment

(this preliminary check of elements E0.1, E0.2a and E0.2b. matches the questions (1), (2a) and (2b) of the RESEARCH ETHICS SELF-ASSESSMENT FORM. These elements E0.1, E0.2a and E0.2b establish a first risk assessment of the proposed research project, to help classify the application in a LOW, MEDIUM or HIGH risk category. After the Preliminary Risk Assessment, assessment elements E1-E4 below will address the four main research ethics assessment criteria)

E0.1 – Preliminary Risk Assessment: Special Rules Regarding Medical Research

E0.1a - Does your research involve *medical scientific research?* [1]	☐ YES ☒ NO	If E0.1a = YES, explain: How?
E0.1b - Does your research involve *medicinal products?*	☐ YES ☒ NO	If E0.1b = YES, explain: How?
E0.1c - Does your research involve *collecting tissue samples, blood, etc.?*	☐ YES ☒ NO	If E0.1c = YES, explain: How?
E0.1d - Does your research involve *situations in which participants are subject to specific procedures or are required to follow rules of behaviour?* [2]	☐ YES ☒ NO	If E0.1d = YES, explain: How?
	☐ **YES at least once in E0.1** → Research proposals subject to the WMO [3] (Dutch *Medical Research Involving Human Subjects Act*) require assessment by a specially accredited medical ethics review	

[1] "Medical/scientific research is research which is carried out with the aim of finding answers to a question in the field of illness and health (etiology, pathogenesis, signs/symptoms, diagnosis, prevention, outcome or treatment of illness), by systematically collecting and analysing data. The research is carried out with the intention of contributing to medical knowledge which can also be applied to populations outside of the direct research population." (from: https://english.ccmo.nl/investigators/legal-framework-for-medical-scientific-research/your-research-is-it-subject-to-the-wmo-or-not)

[2] "In general, research with human subjects is only subject to the WMO if there is an infringement of the physical and/or psychological integrity of the subject. The subject himself/herself must be physically involved in the research for the research to be subject to the WMO. Therefore retrospective research/file research is not subject to the WMO. In that case the data are already available and not collected specifically for a medical-scientific research. The subject does not have to do or abstain from something on behalf of the research.

A blood sample being taken from the participant for the purpose of scientific research: this is always subject to the WMO as the participant is subjected to a procedure. If additional blood is taken for the research as part of a planned vene puncture or from an existing line, then the research is also subject to the WMO.

Research during which a participant must provide one urine sample once, generally is not subject to the WMO. However, research during which urine samples must be provided over the course of a three-week period does."
(from: https://english.ccmo.nl/investigators/legal-framework-for-medical-scientific-research/your-research-is-it-subject-to-the-wmo-or-not)

[3] For more information on whether your research might be subject to the WMO (the Dutch **Medical Research Involving Human Subjects Act)**, see: https://english.ccmo.nl/investigators/legal-framework-for-medical-scientific-research/your-research-is-it-subject-to-the-wmo-or-not

	board. If you wish to conduct this kind of research and seek medical ethics approval, please contact the BUas Research Ethics Review Board via <...@...>.	
	☒ **NO on all questions in E0.1** → continue with **E0.2**	
E0.2 – Preliminary Risk Assessment: Participants		
E0.2a – Participant Consent Capacity [4]		
E0.2a1 - Does your research involve individuals lacking capacity or agency to consent, namely *children under 12?* [5]	☐ YES ☒ NO	If E0.2a1 = YES, explain: How? And: Why?
E0.2a2 - Does your research involve individuals lacking capacity or agency to consent, namely *children aged 12-16?* [6]	☐ YES ☒ NO	If E0.2a2 = YES, explain: How? And: Why?
E0.2a3 - Does your research involve individuals lacking capacity or agency to consent, namely *participants unable to give consent, e.g. in case of mental or legal incapacity?*	☐ YES ☒ NO	If E0.2a3 = YES, explain: How? And: Why?
E0.2b – Treatment of Participants		
E0.2b1 - Does your research involve *situations in which participants might experience physical or*	☐ YES ☒ NO	If E0.2b1 = YES, explain: How? And: Why?

[4] From 16 years of age, for all mentally and legally competent participants, consent for approved research is only obtained from the participant. For some types of research it may nevertheless be good practice to inform the parents or legal guardian/representatives. IF ANY OF THE CASES AS SPECIFIED ABOVE APPLY, make special note of the consent requirements for when you enter the formal approval process, particularly for ADVICE AND ASSESSMENT ELEMENT E1 - Informed Consent of Participants.

[5] In case of minors under 12 years of age, informed consent is obtained from the parent(s) or legal guardian/ representative(s). It is good practice to also ask the child where possible. N.B. This is all IF the research is deemed appropriate, because in principle, scientific research for this group is severely restricted, and is generally subject to a 'no, unless'-policy. See also https://english.ccmo.nl/investigators/additional-requirements-for-certain-types-of-research/research-with-subjects-under-the-age-of-16-years

[6] In case of minors between 12 and 16 years of age, informed consent is obtained from both the minor and the parent(s) or legal guardian/representative(s). N.B. This is all IF the research is deemed appropriate, because in principle, scientific research for this group is severely restricted, and is generally subject to a 'no, unless'-policy. See also https://english.ccmo.nl/investigators/additional-requirements-for-certain-types-of-research/research-with-subjects-under-the-age-of-16-years

psychological stress? Physical stress might include, but is not limited to, pain or discomfort. Psychological stress might include, but is not limited to, interview or survey questions about painful or traumatic experiences.		
E0.2b2 - Does your research involve *the collection of sensitive data which can endanger the participant's privacy?* This might include but is not limited to data about the participant's religion, political affiliation, criminal history or sex life.	☐ YES ☒ NO	If E0.2b2 = YES, explain: How? And: Why?
E0.2b3 - Does your research involve *procedures or situations which might raise doubt in any other way whether proper rules of research conduct are followed?* Answer 'YES' if any of the following are in doubt: implementation of a secure research protocol detailing who / what / when / where / why; only necessary data is collected in a legal/rightful way; a careful informed consent procedure; proper safeguards against illegitimate access to and/or modification of the data, defined in a secure data management policy.	☐ YES ☒ NO	If E0.2b3 = YES, explain: How? And: Why?
	☐ **YES at least once in E0.2a,b** → your research probably requires approval from the BUas Research Ethics Review Board. Please do the following ***two*** things: → ***first***, under 'E0 – Preliminary Risk Assessment - OUTCOME', indicate which category you believe your research project to belong. N.B. based on the information provided in this review application form, the research ethics review board will also categorize the project; this categorization might be different from yours. In the follow-up process, addressing this assessment and any potential divergent analyses can be part of a constructive, solution-focused dialogue. → ***second***, continue with assessment elements ***E1-4*** below, to add more detailed information for the formal research ethics approval process.	
	☒ **NO on all questions** → your research probably does not require approval from the BUas Research Ethics Review Board. If you are still in doubt and/or wish to request advice from the BUas Research Ethics Review Board, please contact the board via <...@...>.	

E0 – Preliminary Risk Assessment - OUTCOME			
Risk Assessment: (based primarily on the following risk categories, as specified in the Review Application Form: involvement of vulnerable and/or underage participants; presence of privacy safeguards; negative effects of test design on participants, environment and/or property)	**LOW** *<mark bold / underlined if selected>*	MEDIUM *<mark bold / underlined if selected>*	HIGH *<mark bold / underlined if selected>*

E1 - Informed Consent of Participants		
(e.g. does this study involve minors or other vulnerable groups? Are participants instructed properly?)		
E1.1 – Will the participants, or (in case of one or more times YES on questions **E0.2a1,2,3**) their legal parents / guardians / representatives, be informed about the reason for and nature of the research and the manner in which their data is used, *in advance and in full*?	☐ YES ☒ NO	If E1.1 = NO, explain: Why not? And: What information will be presented, and at what time during the research? If E1.1 = YES, explain: How? The research is getting held within university and no personal data is going to be used for it.
E1.2 – Will the participants give actively informed / explicit consent to their participation in the research, *and* the manner in which their data is used? E.g. by signing a clear, truthful and complete consent form, without being placed under duress to comply. N.B. this applies if participant is over 16 and able to give legal consent. If between 12 and 16: consent by participants PLUS their legal parents / guardians / representatives. If under 12 or unable to give consent due to mental or legal incapacity: consent by their legal parents / guardians / representatives.	☒ YES ☐ NO	If E1.2 = NO, explain: Why not? If E1.2 = YES, explain: How? Interview – the participant is going to be asked whether they agree to be recorded and whether the information, which is taken from them, can be used in the research. Survey – At the beginning of the survey, there is going to be consent form.
E1.3 – Will it be clear to participants that they can terminate their participation in the research at all times?	☒ YES ☐ NO	If E1.3 = NO, explain: Why not?

E1.4 – Outside of this research project, are the participants in a subordinate relationship to the researcher? E.g. lecturer vs. students, or manager vs. employees.	☐ YES ☒ NO	If E1.4 = YES, explain: How?

E2 - Safeguards to Avoid Negative Consequences		
(e.g. is there sufficient focus on participant wellbeing, environmental sustainability in methodological design? If there are to be negative consequences, is there a convincing reason for this?)		
E2.1 – Will participants be under any risk of harm, damage, danger or stress during the research? Include your answer to question **E0.2b1**: Does your research involve situations in which participants might experience physical or psychological stress?	☐ YES ☒ NO	If E2.1 = YES, explain: How? And: also answer **E2.4** and **E2.5**. If E2.1, E2.2 *and* E2.3 = NO, mark **E2.4** and **E2.5** as N/A (not applicable) and continue with **E2.6**.
E2.2 – Will your research create any risk of harm, damage, danger or stress for any non-participants, animals, the environment, public or private property, or in any other way?	☐ YES ☒ NO	If E2.2 = YES, explain: How? And: also answer **E2.4** and **E2.5**. If E2.1, E2.2 *and* E2.3 = NO, mark **E2.4** and **E2.5** as N/A (not applicable) and continue with **E2.6**.
E.2.3 – Will your research create any risk of harm, damage, danger or stress for the researcher or any member of the research team, of for the reputation or property of Breda University of Applied Sciences?	☐ YES ☒ NO	If E2.3 = YES, explain: How? And: also answer **E2.4** and **E2.5**. If E2.1, E2.2 *and* E2.3 = NO, mark **E2.4** and **E2.5** as N/A (not applicable) and continue with **E2.6**.
If E2.1, E2.2 and/or E2.3 = YES: **E2.4** – If there is any risk of harm, damage, danger or stress, is the importance of the research sufficiently great to offset that risk? (proportionality)	☐ YES ☐ NO ☒ N/A	If E2.4 = either YES or NO, explain: How and Why?
If E2.1, E2.2 and/or E2.3 = YES: **E2.5** – If there is any risk of harm, damage, danger or stress, can the research design be modified in such a way that said risk is lowered? (subsidiarity)	☐ YES ☐ NO ☒ N/A	If E2.5 = either YES or NO, explain: How and Why?
E2.6 – Will participants be rewarded for their participation?	☐ YES ☒ NO	If E2.6 = YES, explain: How and Why?

E2.7 – Are there any other (potential) benefits to participating in this research for the participants, other than the reward as specified in E2.6?	☒ YES ☐ NO	If E2.7 = YES, explain: How and Why? By participating in this research, the team can provide advice for applying in AI in the curriculum of facility management, which can improve the educational process.

E3 - Integrity in Research Project Management		
(e.g. are there conflicts of interest involving participants, researchers and/or financiers?)		
E3.1 – Who / what is the source of funding for the research?	Interviews; Surveys	Explain: For the purpose of the project, qualitative and quantitative research methods are going to be implemented for collecting data, which means there will be implemented interviews and surveys.
E3.2 – Will the funding organization have any control over the methods, execution and/or reporting of the research?	☐ YES ☒ NO	If 3.2 = YES, explain: How?
E3.3 – Are there any researchers involved with the research who have connections to any organization or company, in such a way that a conflict of interests (or the impression thereof) might arise?	☐ YES ☒ NO	If 3.3 = YES, explain: How? And: What will be done to mitigate that risk?

E4 - Privacy and Data Management		
(e.g. availability of sound data management plan)		
E4.1 – Is there a Data Management Plan?	☒ YES ☐ NO	If E4.1 = YES, please include the file in the application package (listed under **B**). If E4.1 = NO, explain which other safeguards of secure data management have been established.
E4.2 – Will it be possible to link any data to specific participants? E.g. will any of the data NOT be anonymous?	☐ YES ☒ NO	If E4.2 = YES, explain: Why? And: also answer **E4.3**. If **E4.2** = NO, mark **E4.3** as N/A (not applicable) and continue with **E4.4**.
If E4.2 = YES: **E4.3** – Will any personal information (name, address, phone number, etc.) be stored?	☐ YES ☒ NO ☐ N/A	If E4.3 = YES, explain: Why?

E4.4 – How will the data be stored? Who will have access to any private and/or non-anonymized data (including but not limited to the raw data)?	Research Group; Lectures from Data science and artificial intelligence program	Explain: The data will be stored in Github, Sharepoint and Zenodo as the it will be accessible for the research group members and the mentors from the program “Data science and Artificial Intelligence”.

➔ APPENDIX: Standards for Good Research Practices, from: *Netherlands Code of Conduct for Research Integrity* (2018).

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3.1 Introduction

In this chapter, the principles described above are further elaborated into more specific standards for good research practices. These set out what researchers must take into consideration in their work, individually and as a team. They are for the most part presented separately for each individual phase of the research process: design, conduct, reporting, assessment and peer review and communication. The chapter concludes, in 3.7, with a number of standards applicable to all phases. In their elaboration and application, the differences between fundamental, applied and practice-oriented research may be relevant.

The standards included in this chapter are *general* ones. They may be specified or supplemented in writing, depending upon the discipline or institution, but not weakened.

3.2 Design

1. Consider the interests of science and scholarship and/or society when determining the subject and structure of your research.
2. Conduct research that can be of scientific, scholarly and/or societal relevance.
3. Do not make unsubstantiated claims about potential results.
4. Take into account the latest scientific and scholarly insights.
5. Make sure that your research design can answer the research question.
6. Ensure that the methods you employ are well justified.
7. If the research is conducted on commission and/or funded by third parties, always specify who the commissioning party and/or funding body is.
8. Be open about the role of external stakeholders and possible conflicts of interest.[11]
9. In research with external partners, make clear written agreements about research integrity and related matters such as intellectual property rights.
10. As necessary, describe how the collected research data are organized and classified so that they can be verified and reused.
11. As far as possible, make research findings and research data public subsequent to completion of the research. If this is not possible, establish valid reasons[12] for their non-disclosure
12. a. In the event of an investigation into alleged research misconduct, make all relevant research and data available for verification subject to the confidentiality safeguards established by the board of the institution.
    b. In highly exceptional cases, there may be compelling reasons for components of the research, including data, not to be disclosed to an investigation into alleged research misconduct. Such cases must be recorded and the consent of the board of the institution must be obtained prior to using the components and/or data in question in the scientific or scholarly research. They must also be mentioned in any results published.
13. Ensure that the required permissions are obtained and that, where necessary, an ethical review is conducted.
14. Accept only research assignments that can be undertaken in accordance with the standards in this Code.
15. Enter into joint research with a partner not affiliated with an institution which has adopted this or a comparable Code only if there is sufficient confidence that your own part of the research can be conducted in compliance with this Code and the joint research results meet generally accepted principles of integrity in research.

11. By, for instance, adopting a Declaration of Scientific Independence as recommended in the KNAW report *Wetenschap op bestelling* ("Science to Order", 2015), p. 46.
12. Valid reasons, including confidentiality, can be found in: Council of the European Union, Outcome of Proceedings: The transition towards an Open Science system, paragraph 14 (Brussels, 27/05/2016, 9526/16, via: data.consilium.europa.eu/doc/document/ST-9526-2016-INIT/en/pdf).

3.3 Conduct

16. Conduct your research accurately and with precision.
17. Employ research methods that are scientific and/or scholarly.
18. Make sure that the choice of research methods, data analysis, assessment of results and consideration of possible explanations is not determined by non-scientific or non-scholarly (e.g. commercial or political) interests, arguments or preferences.
19. Do not fabricate data or research results and do not report fabricated material as if it were fact.
20. Do justice to all research results obtained.
21. Do not remove or change results without explicit and proper justification. Do not add fabricated data during the data analysis.
22. Ensure that sources are verifiable.
23. Describe the data collected for and/or used in your research honestly, scrupulously and as transparently as possible.
24. Manage the collected data carefully and store both the raw and processed versions for a period appropriate for the discipline and methodology at issue.
25. Contribute, where appropriate, towards making data findable, accessible, interoperable and reusable in accordance with the FAIR principles.[13]
26. Take into consideration the interests of any humans and animals involved, including test subjects, as well as any risks to the researchers and the environment, while always observing the relevant statutory regulations and codes of conduct.[14]
27. Keep your own level of expertise up to date.
28. Take on only those tasks that fall within your area of expertise.

3.4 Reporting results

29. Do justice to everyone who contributed to the research and to obtaining and/or processing the data.
30. Ensure a fair allocation and ordering of authorship, in line with the standards applicable within the discipline(s) concerned.
31. All authors must have made a genuine intellectual contribution to at least one of the following elements: the design of the research, the acquisition of data, its analysis or the interpretation of findings.
32. All authors must have approved the final version of the research product.
33. All authors are fully responsible for the content of the research product, unless otherwise stated.
34. Present sources, data and arguments in a scrupulous way.
35. Be transparent about the method and working procedure followed and record them where relevant in research protocols, logs, lab journals or reports. The line of reasoning must be clear and the steps in the research process must be verifiable. This usually means that the research must be described in sufficient detail for it to be possible to replicate the data collection and its analysis.
36. Be explicit about any relevant unreported data that has been collected in accordance with the research design and could support conclusions different from those reported.
37. Be clear about results and conclusions, as well as their scope.
38. Be explicit about uncertainties and contraindications, and do not draw unsubstantiated conclusions.
39. Be explicit about serious alternative insights that could be relevant to the interpretation of the data and the research results.
40. When making use of other people's ideas, procedures, results and text, do justice to the research involved and cite the source accurately.
41. Avoid unnecessary reuse of previously published texts of which you were the author or co-author.
    a. Be transparent about reuse by citing the original publication.
    b. Such self-citation is not necessary for reuse on a small scale or of introductory passages and descriptions of the method applied.[15]
42. Always provide references when reusing research material that can be used for meta-analysis or the analysis of pooled data.
43. Avoid unnecessary references and do not make the bibliography unnecessarily long.
44. Be open and complete about the role of external stakeholders, commissioning parties, funding bodies, possible conflicts of interest and relevant ancillary activities.
45. As far as possible, make research findings and research data public subsequent to completion of the research. If this is not possible, establish the valid reasons[16] for this.

3.5 Assessment and peer review

46. Be honest and scrupulous as an assessor or peer reviewer, and explain your assessment.
47. Do not use information acquired in the context of an assessment without explicit consent.
48. Do not use the system of peer review to generate additional citations for no apparent reason, with the aim of increasing your own or other people's citation scores ('citation pushing').
49. Refrain from making an assessment if any doubts could arise regarding your independence (for example, because of possible commercial or financial interests).
50. Refrain from making an assessment outside your area of expertise, or do so only in general terms.
51. Be generous in cooperating with internal and external reviews of your own research.
52. Do not establish a journal that does not apply the required standards of quality to its publications, and do not cooperate with any such journal.

3.6 Communication

53. Be honest in public communication and clear about the limitations of the research and your own expertise. Only communicate to the general public about the research results if there is sufficient certainty about them.
54. Be open and honest about your role in the public debate and about the nature and status of your participation in it.
55. Be open and honest about potential conflicts of interest.

3.7 Standards that are applicable to all phases of research

56. As a supervisor, principal investigator, research director or manager, provide for an open and inclusive culture in all phases of research.
57. As a supervisor, principal investigator, research director or manager, refrain from any action which might encourage a researcher to disregard any of the standards in this chapter.
58. Do not delay or hinder the work of other researchers in an inappropriate manner.
59. Call attention to other researchers' non-compliance with the standards as well as inadequate institutional responses to non-compliance, if there is sufficient reason for doing so.
60. In addressing research misconduct, make no accusation that you know or should have known to be incorrect.
61. Do not make improper use of research funds.

13. See the GoFair website: https://www.go-fair.org/fair-principles/
14. See the Appendix for an overview of the most relevant statutory regulations in this context.
15. See KNAW, Correct Citeren ("Correct citation practice", 2014): https://www.knaw.nl/en/news/publications/correct-citation-practice.

16. Valid reasons, including confidentiality, can be found in: Council of the European Union, Outcome of Proceedings: The transition towards an Open Science system, paragraph 14 (Brussels, 27/05/2016, 9526/16, via: data.consilium.europa.eu/doc/document/ST-9526-2016-INIT/en/pdf).