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Research Group

UZH
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Center



Master Project Requirements

BDLT

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The scope of this document is to provide a guideline to the students interested in doing a master project under the supervision of Professor Claudio J. Tessone, chair of the Blockchain and Distributed Ledger Technology (BDLT) research group. Additionally, a co-supervisor will be assigned to you as your primary contact person.

This document is subject to change: additional requirements may be necessary, according to UZH regulations. Please always refer to the most recent version of this document.

Step-by-Step Procedure

This section describes the steps UZH students must follow to complete a project in BDLT.

Initial Contact:

- The students review available thesis topics on the [BDLT official list](#). Each topic is proposed by a member of BDLT.
- The students identify their favourite topic and contact the topic's responsible person.

Topic Discussion:

- The students discuss the selected topic with the responsible person and, if applicable, Professor Tessone.

Agreement to Start:

- If both the student and the topic's responsible person agree to proceed, they fill out two documents:
 - **Thesis Registration Form:** "Registration for a Master's Project" (available on the [IFI website](#)).
 - **Project Description Document:** Specific details about the thesis, written by the student and the topic's responsible, you can find more on this in the dedicated section.
- From this point on, the topic's responsible person takes the role of co-supervisor of the student's thesis, while Professor Tessone is the thesis supervisor.

Thesis Registration:

- The completed registration form must be sent from the students' UZH email to Professor Tessone, who will sign it and forward it to studies@ifi.uzh.ch, marking the official start of the thesis.
- The project is officially registered only after the student receives a confirmation email from Study Coordination.
- **IMPORTANT:** The co-supervisor and the student start with the [Thesis Management Protocol](#):
 - The student has to fill out the Proposal Submission [MS form](#).
 - The student (or the co-supervisor) should open a GitLab repository on the UZH instance for version control and archiving reasons (check the Code and Data section on the topic).
 - The student submits to Prof. Tessone the signed Project Description Document.

Project Process:

- The students have 12 months from the official start date (as per the registration form) to complete and submit the project report.
- Regular meetings between the students and the supervisor/co-supervisor are recommended to provide guidance.

Submission:

- The students submit the completed project report from their UZH email to Prof. Tessone and CC to the co-supervisor in the BDLT group no later than 12 months from the start date.
- Deadlines and submission requirements are provided in the registration confirmation email.
- **IMPORTANT:** Thesis Management Protocol
 - If the student successfully fills out the Proposal Submission MS Form, 7 days before the deadline they should receive a reminder email and the Report Submission [MS form](#) to fill out.

- At this point, the students should submit the code and data material to the supervisor and co-supervisor for archiving as a .zip folder (check the Code and Data section on the topic).

Presentation:

After submitting the thesis to the department, the students are required to make a presentation on this project. The presentation will take place in the BDLT group and will last 30 minutes (20 minutes for the presentation and 10 minutes for Q&A). Generally, the presentation should cover the research background, research questions, data collection process, methods, results, and conclusion.

Grading:

- After submission and presentation, Prof. Tessone and the co-supervisor will discuss the grade.
- Prof. Tessone will submit the final grade to the UZH office.

Project Description Document

After an introductory discussion, the students must write a *document* (around two to three pages) with the following contents:

1. **Problem Statement:** Positioning the problem to be addressed, its relevance, and the state-of-the-art. Such text should be understood also by a non-specialist.
2. **Research Question:** Succinctly, the research question to be addressed must be clearly, unambiguously, specified.
3. **Requirements:** The data required, its source, and which party is responsible for its provision must be stated in this section. Knowledge to be acquired (e.g. familiarisation with specific software packages or methodologies), too.
 - a. If the student party does not provide a requirement that was accounted to her/his, this may impact the final grade.
 - b. If the requirement was to be provided by BDLT responsible members / or a third party with Professor Tessone's - or a collaborator's - direct participation, no impact on the final grade would take place.
4. **Methods and expected results:** The methodology to be used must be described. The type of analysis and kind of results are to be elicited.
5. **Timeline:** Either through a diagram or in written text, the successive milestones must be realistically drawn. If requirements are necessary for the accomplishment of a specific task, said requirements must also be included in the timeline.
6. **Task Specification:** the students are required to distribute project tasks equally to all the group members, and each task should be assigned to a responsible student. It is understood that this may change during the development of the actual work.

This document must be prepared and submitted to Prof. Tessone before the start of the project as it describes the means of evaluation for the student.

Code and Data

At the start of your project, the students (or the co-supervisor) should open a GitLab repository on the UZH instance for version control and archiving purposes.

It is very important to make the code and data easily understandable for others who might reuse or extend the work. Therefore, please include a README file in the repository to explain the contents and provide detailed instructions on how to use the code.

Students must push their code regularly throughout the project. This is critically important because unexpected issues, such as the loss of their VM or device, may occur, resulting in data loss. Regular commits ensure that work is backed up and recoverable.

If a thesis involves large-scale data collection or computation that cannot be handled on a personal laptop, students can apply for a server account from the BDLT group. To use the server, please request an account from the co-supervisor. After obtaining the account, remember that data cannot be stored in your home folder on the server. Instead, it must be stored in the /local/scratch/exported/ folder, following this naming format: thesis_topic_your_name_year (e.g., thesis_flashloan_TY_2024).

When performing tasks that require significant computational resources or time, students must communicate with their co-supervisor to prevent server crashes and disruptions to others' work.

At the end of the project, the following elements should be made available:

- **Final code:** The final version of the code should be stored in the GitLab repository and provided as a downloadable zip file.
- **Finalized data:** This refers to the processed data used to reproduce the plots and results.
- **Guidelines to collect the "raw" data:** These should include detailed information about the database, such as its location, access rights, and any queries used to collect data from the sources. Each query should include a clear explanation of its purpose and how the outputs connect to subsequent steps in the analysis.
- **Preprocessing steps:** Detailed explanations of the preprocessing workflow should be provided, specifying the data inputs, the preprocessing steps, and the outputs at each stage.

By adhering to these guidelines, we ensure that the work is well-documented, reproducible, and valuable for future researchers.

Additional Resources

You can find additional and useful information:

- [Master Project Factsheet from UZH](#), check this for guidelines on how to conduct a master project.
- [Registration form](#)
- BDLT report template in teams (you may need special permissions to access): [Report Templates](#)

