

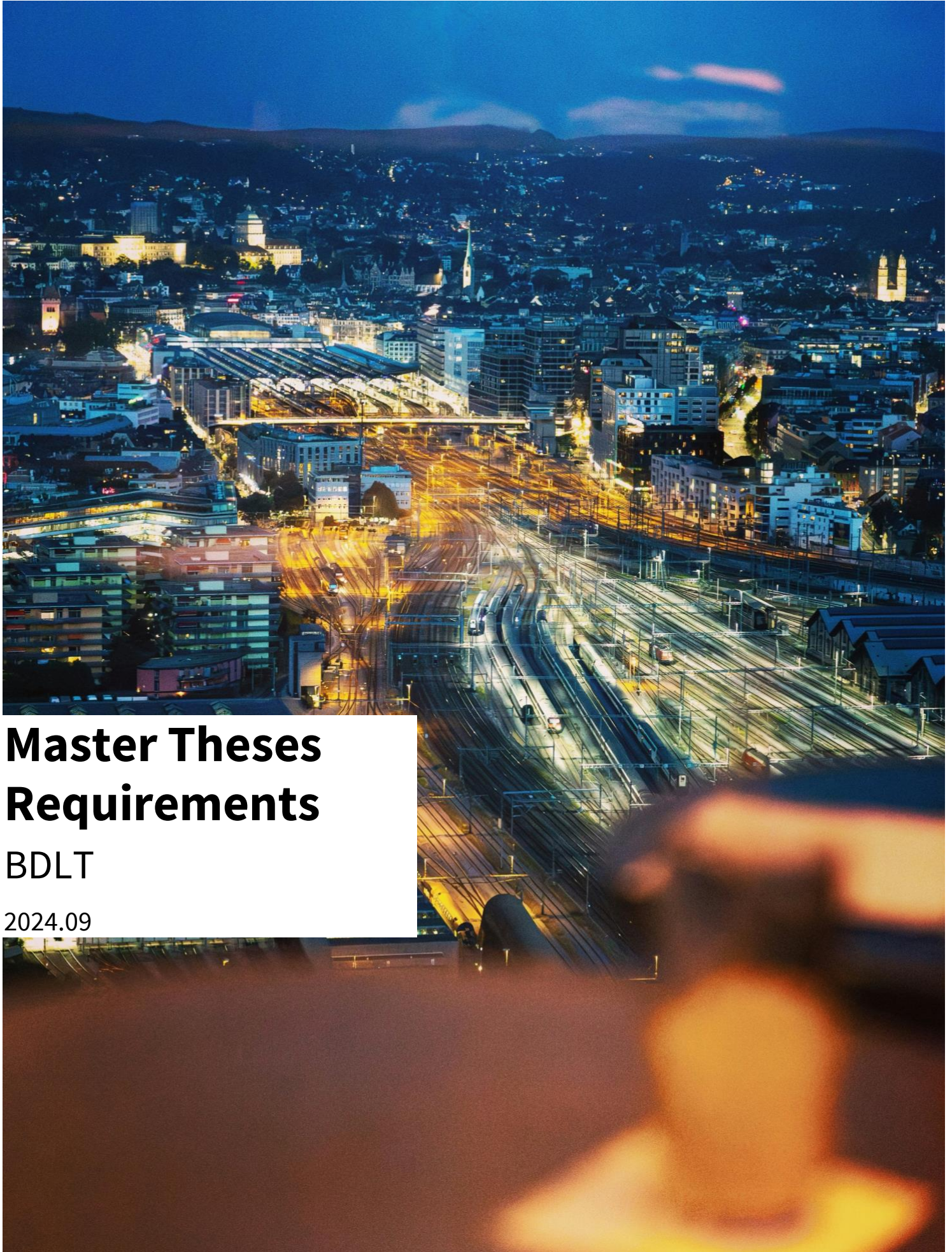


Universität
Zürich^{UZH}



Blockchain & DLT
Research Group

UZH
Blockchain
Center



Master Theses Requirements

BDLT

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The scope of this document is to provide a guideline to the student interested in doing a master's thesis 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 a UZH student must follow to successfully complete a thesis under the supervision of a BDLT member.

Initial Contact:

- The student reviews available thesis topics on the [BDLT official list](#). Each topic is proposed by a member of BDLT.
- The student identifies their favourite topic and contacts the topic's responsible person.

Topic Discussion:

- The student discusses 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 Bachelor and Master Theses in Informatics" (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 student's 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 thesis 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.

Thesis Process:

- The student has 6 months from the official start date (as per the registration form) to complete and submit the thesis.
- Regular meetings between the student and the supervisor/co-supervisor person are recommended to provide guidance.

Submission:

- The student submits the completed thesis from their UZH email to studies@ifi.uzh.ch, no later than 6 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 student should submit the code and data material to the supervisor and the co-supervisor for archiving as a .zip folder (check the Code and Data section on the topic).

Defense:

After submitting the thesis to the department, the student is required to defend it. The defense 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 defence, 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 student 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. **Skeleton of the Thesis:** The Sections to be contained in the Thesis. It is understood that this may change during the development of the actual work.

This document must be prepared and submitted to Professor Tessone before the start of the thesis as it describes the means of evaluation for the student and the obligations that BDLT members take towards the student, e.g. data providing.

Code and Data

At the start of your project, the student (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:

- [How to prepare a master/bachelor thesis](#)
 - check this for guidelines on how to write a thesis.
- Also of interest, the [Master Thesis Factsheet from UZH](#)
- [Registration form](#)
- BDLT thesis template in teams (you may need special permissions to access): [Thesis Templates](#)

Students not from IFI or UZH

If the student does not belong to the Department of Informatics (IFI), they must confirm with the corresponding contact person in their department that the Thesis can be performed under our supervision.

The student outside of UZH will follow the regulations of their home university; as a rule of thumb, in order to comply with BDLT they will have to follow the steps in the section Steps-by-step Procedure, with special attention to the forms and the Project Description Document. They will not have to follow the steps regarding IFI regulation, such as the IFI registration form and the IFI related deadlines.

