My Exposé

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This template is also available online on the [GitHub](#) and [Overleaf](#) platforms.

You can write your exposé either in German or in English.

The point of this exposé is to demonstrate that you have a good understanding of what your thesis will be about and what the steps are to get there. Please discuss your exposé with your advisor to make sure all points are covered. It will be read by the PZAI Promotionsausschuss (dissertation committee) to estimate if your research proposal is in line with the overall research agenda of the PZAI, if depth in terms of computer science and/or math is sufficient, and if the balance of theoretical and experimental work is adequate.

Expect this document to be about 2-3 pages (depending on figures, tables, ...), excluding references.

1 Introduction

Briefly introduce the reader to the overall topic, describe the problem and scenario you are working on, and – if not obvious– explain, how this topic matches the topics of the PZAI.

Limit yourself to about 150 words, use references only if absolutely necessary.

2 Related Work

Describe the related work and state of the art. Try to find a balance between covering relevant approaches and detailing those lines of work which are closest to your planned contribution.

Limit yourself to about 300 words, try to avoid references of questionable quality (websites, unverified arxiv preprints, ...) and make sure your references are formatted correctly, e.g. [1].

3 Thesis Objective

Based on the related work, identify the research gap you will be addressing. Try to formulate research questions that your thesis will answer. Describe the overall expected outcome of your research. Helpful formulations could be as below Consider this an executive summary and limit yourself to 150 words.

The objective of this thesis is ...
To achieve this goal, the following main research questions must be addressed: ...

4 Research Outline

Sketch an outline of your research. What problems will be addressed, how will you solve them? What are data or infrastructure requirements, and how will you meet them? How do you measure progress and success in your research? You can think of this as work packages or milestones that you describe. Briefly argue why your research will lead to a Dr.-Ing. or Dr. rer. nat.

Limit yourself to about 500 words, use figures, schemes, tables or itemized formatting as needed.

References

[1] J. W. Cooley and J. W. Tukey, "An algorithm for the machine calculation of complex Fourier series," Mathematics of Computation, vol. 19, pp. 297–301, 1965, issn: 0025–5718.