GUIDELINES FOR ANSWERING QUESTIONS DURING THE CANDIDACY EXAM

Our hope is that, once you enroll into the EPFL PhD program and graduate from it, you will become one of the top world scientists. As such, you will be expected to demonstrate a high level of accuracy and clarity in your talks/presentations. Although this goal is perhaps hard to achieve in your first year in the program, there should be evidence during the candidacy exam that you are making progress toward achieving it. There are plenty of instructions out there for making slides (down to the minimum font size) and giving presentations (e.g., facing the audience as much as possible). The goal of this short write up is to help you field questions coming from the committee and audience doing your candidacy exam.

The general tone you should assume doing your candidacy exam is perhaps that you are one of the authors of these papers. You should be able to defend them, and especially articulate what are the key contributions. Another way to look at it is to ask yourself why these papers were accepted in the top conferences where they were published (i.e., how would you argue for their acceptance if you were on the program committee).

Do not put anything on your slides that is incorrect. Likewise, do not put anything that you could not defend. This means that, if you do not understand something from one of your three papers, you should make an effort to read the additional literature to make sure that you can clarify that point. If there is a detail bothering you (e.g., a strange way of presenting performance of the system), rest assured that the committee will pick up on it as well.

Steer clear of making generalizing remarks that are impossible to prove. Doing so is the easiest way to irritate your audience. A classic example is along the lines of "performance is optimal" (never say optimal unless you can prove it!), or "performance will always decrease if xyz happens" (who knows how many other parameters are there that could affect performance!).

If you are asked a question that has a yes/no answer, answer with a yes or no. Do not assume that you are being asked about the weakest point of the work and start on a tangent that leads you to say that the whole work is flawed (this unfortunately does happen in conferences!).

The most common error in answering a question is simply to not understand it. Let us rephrase this: make sure you understand the question! If you are having difficulty with English, or difficulty understanding the terminology used in the question, ask for clarification. ("I am sorry, can you please repeat your question", or "Sorry, did you mean to ask…"). If this goes on for three times, rest assured, the questioner will rephrase the question out of courtesy.

Be well prepared to perform a "back-of-the-envelope" calculation; if you are having difficulty doing this in your head, use the whiteboard. For example, "If the performance of the CPU alone doubles, what will happen to the performance of the application?". First, make sure that you understand the question. Then, you are allowed to make a number of assumptions that work in your favor (one of the few joys of being in the graduate school!). It is the questioner's problem if he or she left out some assumption from the question. You should obviously try to pick a set of assumptions that greatly simplify your task in performing the calculation or answering the question. Keep in mind that the questioner is not particularly interested in the absolute value (answer) you will give - what really counts is the thought process you will demonstrate. In my example you are free to say something along the lines of "I am assuming that the only application running in the system is I/O bound, and that the only change is in the raw processing power (i.e., no changes to the pre-fetching strategies, cache size, etc.) and thus increasing the performance of the CPU will have a marginal effect on the overall performance, if any". That's it.

You might encounter a question that you have enormous difficulty answering. You should not immediately give up without even trying to answer the question. Again, keep in mind that it is the thought process that counts. If you are tired, sit down. If you are thirsty, get some water. The committee is well aware that different students take different amounts of time to answer a question. The committee's goal is to help you demonstrate your abilities. Breathe in, and do your best to answer the question.