

Family Name: \_\_\_\_\_ First Name: \_\_\_\_\_ Student ID: \_\_\_\_\_

**Final Synthesis Report**  
**Seminar in Computer Architecture (263-2211-00L)**  
**ETH Zürich, Fall Semester 2019**  
**Prof. Onur Mutlu, Dr. Mohammed Alser, Dr. Juan Gómez Luna**  
**Assigned: 23 December 2019**  
**Due date: 24 January 2020**

TAs: Dr. Jawad Haj-Yahya, Dr. Lois Orosa, Dr. Jisung Park, Rahul Bera Can Firtina, Nika Mansouri Ghiasi, Hasan Hassan, Geraldo De Oliveira Junior Jeremie Kim, Constantinos Kanellopoulos, Minesh Patel, Giray Yaglikci

Please answer the following questions completely, based on everything you have read, seen, listened to and experienced in the course during the entire semester. We would like you to use your experience to synthesize the answers for the questions provided. While there is no strict word limit for any answer, we expect concise, clear and precise answers. One insightful paragraph per answer is a guideline -- but two insightful paragraphs would be appreciated as answer as well. Please do not write for the sake of writing -- we would like to see your answers add value. [Please insert your answers in blue color. Please do NOT provide handwritten answers. If you do not have Microsoft word software then use the Google document version of this synthesis report, which can be found \[here\]\(#\).](#)

**Part 1: Questions about the topics covered in the seminar.**

**Question 1.** Among [all the papers](#) presented in the seminar, which four papers, *other* than the one you presented, did you like the most? List them one by one and explain your reasoning as to why. Please be as scientific and rigorous in reasoning and employ the methods we used in class. You *cannot* pick the paper you presented -- there will be questions about that later.

- (a) Topmost paper you liked and why you liked it:
- (b) Second-topmost paper you liked and why you liked it:
- (c) Third-topmost paper you liked and why you liked it:
- (d) Fourth-topmost paper you liked and why you liked it:

**Question 2.** What are the major categories of research that were covered in the seminar? If you were to create 4 groups of papers based on all papers in the course, what would those categories be? What key challenges do papers in each group address and how are they related to each other? How important is the research challenge they address and what are the implications of solving the research challenge common to the group of papers?

- (a) Name Group 1, describe the key research directions and problems tackled in each group, list the papers that fall under the Group, and answer questions asked above:

- (b) Name Group 2, describe the key research directions and problems tackled in each group, list the papers that fall under the Group, and answer questions asked above:
- (c) Name Group 3, describe the key research directions and problems tackled in each group, list the papers that fall under the Group, and answer questions asked above:
- (d) Name Group 4, describe the key research directions and problems tackled in each group, list the papers that fall under the Group, and answer questions asked above:

**Question 3.** Based on everything you have seen in the seminar, what do you think are the most important challenges in the computer architecture field today? Pick anywhere from 1-3 challenges and describe why you think each challenge is important.

**Question 4.** What was the most surprising topic/paper you saw in the seminar? Why? Explain technically. If you choose the paper you presented, also select a second paper that is the second-most surprising and explain for both.

**Question 5.** What was the most exciting topic/paper you saw in the seminar? Why? Explain technically. If you choose the paper you presented, also select a second paper that is the second-most surprising and explain for both.

**Question 6.** Now that you have the benefit of having seen 18 other papers and many research topics, do you have any new takeaways or insights into the paper you yourself have presented? Please describe.

**Question 7.** Do you have any new ideas you have developed based on the seminar? If so, explain it briefly, using the rigorous methodology we developed during the seminar course for explaining every single paper.

**Question 8.** Are you interested in doing research (e.g., Bachelor's thesis, research internship, research for fun, Master's project or thesis, PhD!) in the topic areas covered in the seminar? Why, why not? If yes, please describe which topic areas or papers you might be interested in doing research in.

**Part 2: Questions about the seminar.**

**These answers will not be graded, but we would really appreciate you provide your honest and detailed feedback. My key goal is to enhance your learning and education (and its long-term impact on you as a computer scientist and person), and the only way in which we can shape that is by getting your honest feedback and placing it into context of my own teaching philosophy and experience.**

**Question 9.** What did you like the most about this seminar course? List top 3 things.

**Question 10.** What can be improved in this seminar course? Please list your suggestions.

**Question 11.** Would you recommend this course to other D-INFK students? Why?

**Question 12.** What was the reason you took this seminar course?