System-level design for efficient execution of CNNs at the edge
Minakova, S.

Citation

Version: Publisher's Version
License: Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden
Downloaded from: https://hdl.handle.net/1887/3487044

Note: To cite this publication please use the final published version (if applicable).
Journal Articles

- Svetlana Minakova and Todor Stefanov. "Memory-Throughput Trade-off for CNN-based Applications at the Edge". Accepted for publication in ACM Transactions on Design Automation of Electronic Systems (TODAES), March 2022.


Peer-Reviewed Conference Proceedings


- Svetlana Minakova, Erqian Tang, Todor Stefanov. "Combining Task- and Data-level Parallelism for High-Throughput CNN Inference on Embedded CPUs-GPUs MPSoCs". In Proceedings of the 20th International Conference on Embedded Computer Systems: Architectures, Modeling and


Curriculum Vitae

Svetlana Minakova was born on January 31, 1993 in Ryazan, Russian Federation. She obtained her B.Sc. degree in informatics and computer engineering from Bauman Moscow State Technical University, Moscow, Russian Federation, in 2015 and the M.Sc. degree in informatics and computer engineering from Bauman Moscow State Technical University, Moscow, Russian Federation, in 2017. In January 2018 she joined the Leiden Embedded Research Center (LERC), part of the Leiden Institute of Advanced Computer Science (LIACS) at Leiden University, as a Ph.D. candidate. Her research work, which resulted in this thesis, has received funding from the European Unions Horizon 2020 Research and Innovation project under grant agreement No. 780788. Besides her work as a researcher, she has been teaching assistant for courses such as Digital Systems Design and Embedded Systems and Software. Since September 2022 she has been working as an Applied AI/ML Scientist at Signify, The Netherlands.
Acknowledgments

My PhD study comes to an end, and what a journey it’s been! I have learned much, visited many places I’ve never been before and met many amazing people. In this section, I would like to express my gratitude to everyone who was beside me throughout my PhD journey.

First of all, I would like to thank my supervisor, Todor Stefanov, who gave me an opportunity to join LERC group at Leiden University as a PhD student. Thank you, Todor for this opportunity as well as for your guidance and patience and all nice and fruitful discussions we had.

I was fortunate to perform my PhD studies as a part of the large ALOHA consortium. While I am grateful to every member of the consortium, I would like to express my special thanks to my colleagues from University of Amsterdam, Andy and Dolly (or should I say professor Pimentel and doctor Sapra), as well as to my colleagues from the University of Cagliari, Paolo Meloni and Paola Busia. I enjoyed the time we spent together discussing research ideas, travelling and just chatting.

I am also grateful that I got to spend time with my colleagues from Leiden University Sobhan, Erqian, Peng, Xiaotian, and Faezeh. Sobhan, special thanks to you for your tips and help in my job search following my formal graduation.

To my friends from Russia, Alexander Maltsev, Vladimir Vysochansky, Ivan Chernenky, Valeria Zharova, and Alexey Leontiev: thank you for keeping my spirits up. I am happy we stay in touch even while being scattered all over the globe. To my new friends here in The Netherlands, Remco, Daila, Milan, Ilse-Marie, Erik, Jonas, Oskar, Bas, Jorke, Arthur, Niek, Bart, Wouter and Elea: thank you for the fun and board games we’ve had together.

I would like to thank my family. To my parents, Anna and Yuri: thanks you for supporting me in my move to Europe, and for sending me care packages (with delicious mushrooms, chocolates and teas) and love over such long distances. And to the parents of my partner as well, Chris and Wim: thank you for supporting me during the difficult times, and also for the most wonderful
meals and wines I have ever had.

To my cousin Radmir Gaynutdinov. Thank you Radmir, for believing in me and for sharing your expertise in working in a scientific environment.

A special place in my acknowledgements goes to my grandmother, Kulumbetova Liya Nigmatovna. A physicist, a bright person with a curious never-resting mind. She was a great inspiration to me. Not only was she an example to me, but she also taught me how to approach complex problems. Furthermore, she greatly supported me in my decision to pursue my studies and later a career in the field of computer science, where I found my happiness and purpose.

The final and biggest thanks goes to my dear Siebren. I cannot quite express all my gratitude for all the love, support and kindness you have surrounded me with during my PhD journey. For all the feedback you have provided me after reading the first drafts of my papers, and for all extra commas you have removed from the last drafts. For your willingness to share every moment of my journey, no matter whether it was a happy or a sad moment.