

Algorithm selection and configuration for Noisy Intermediate Scale Quantum methods for industrial applications

Moussa. C.

Citation

Moussa, C. (2023, October 11). Algorithm selection and configuration for Noisy Intermediate Scale Quantum methods for industrial applications. Retrieved from https://hdl.handle.net/1887/3643423

Version: Publisher's Version

License: License agreement concerning inclusion of doctoral thesis

in the Institutional Repository of the University of Leiden

Downloaded from: https://hdl.handle.net/1887/3643423

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

Acknowledgements

Firstly, I would like to express my gratitude towards my supervisors, Vedran Dunjko and Thomas Bäck, for their support and guidance all these years. Vedran, I am really grateful for helping me grow, for the patience you showed towards me, and for allowing me such freedom in the Ph.D. time. I would also like to thank, for their support, all of my colleagues and friends at LIACS and Leiden University with whom I shared this journey. I will surely miss our walks, our discussions, Ph.D. activities, and the drinks at the many bars in Leiden.

I would like to give thanks to my colleagues and friends at Leiden University who spent quite some time with me either in discussions, playing beach volleyball, or planning Ph.D. activities: Jan van Rijn, Hao Wang, Furong Ye, Koen van der Blom, Sander van Rijn, Theodoris Georgiou, Yash Patel, Thomas Moerland, Can Wang, Daniella Gawhens, Adrián Pérez Salinas, Lea Trendwalker, Casper Guyrik, David Dechant, Marios Kefalas, Diederick Vermetten, Shuaiqun Pan, Roy de Winter, Jacob de Noel, Lieuwe Vinkhuijzen, Sebastiaan Brand, Alexandra Blank, Marie Anastacio, Andrea Skolik, Katie Saentaweesook, Jackie Ashkin, Marina Gavryushkina, Simon Leyberger, Mario Cangiano, Melissa Thaler, Johannes Schimming, Hugo Proenca, Matthias Köning, Leni Rüland, Kaela Slavik · · · and all the other people that know me and I could not cite here.

Furthermore, I would like to thank my friends I met before the Ph.D. with whom I shared friendly and working moments during my studies and the start of my quantum journey: Aurelien Citrain, Jeremy Marchand, Vinduja Vasanthan, Henri Calandra, Adrien Suau, Elvira Shishenina, and Gabriel Staffelbach. Additionally, I would like to thank everyone I worked with during my exchanges at Los Alamos and OakRidge National Laboratory, for supporting me when investigating quantum computing.

Finally, I would like to express my gratitude towards my family, my father Issa, my mother May, my 3 brothers Mickael, Simon, and Thomas, as well as too many to cite

Acknowledgements

other family members such as cousins, aunts, uncles and my passed away grandparents, for their immeasurable support all these years. Without you, I would never have come this far in my life. Last but not least, I would like to express my love toward Solomiia for the tenderness and support you demonstrated to me. I hope everyone will keep safe and find happiness through their journeys.

About the author

Charles Moussa was born in Saint-Claude, Guadeloupe on the 30th of August, 1993, and grew up in the village of Trois-Rivieres. He studied Mathematical Enginnering at the National Institute of Applied Sciences (INSA) of Rouen. Interested in new technologies, he enrolled in an 18-month exchange contract with TotalEnergies and investigated quantum computing and the potential industrial applications at OakRidge National Laboratory, Tennessee. He started his Ph.D. in June 2019 on investigating further quantum algorithms towards industrial applications in the Quantum Computing and Natural Computing groups at LIACS, under the supervision of Dr. Vedran Dunjko and Prof.dr. Thomas Bäck. During his Ph.D., he also got enrolled at the Quantum Computing Summer School organized by the quantum group at Los Alamos National Laboratory, New Mexico, for a period of 10 weeks. His research interests lie in algorithms, machine learning, and quantum computing.