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Data structures for quantum circuit verification and how to compare them

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Curriculum Vitae

Lieuwe was born on 14th October 1993 in Leiderdorp. At Leiden University, he obtained his BSc. degree in Computer Science in 2014 and his MSc. degree in Computer Science in 2018. In 2019, he received the VERSEN Master Thesis Award for his MSc. thesis, supervised by Andre Deutz, entitled “A Quantum Polynomial Hierarchy and a Short Proof of Vyalıi’s Theorem.” At Leiden University and under the supervision of Holger Hoos, Alfons Laarman, and Tim Coopmans he conducted the research presented in this doctoral thesis. During his PhD period, he continued to follow various courses, such as on abstract algebra, model checking, the theory of algorithms, communication in science, academic writing and scientific conduct. In 2020, he received the SETTA Best Video Presentation Award for his presentation of his publication “Model Checking With Sentential Decision Diagrams,” which became [Chapter 7](#) in this thesis. In 2022 and 2023, he made research visits to the Johannes Kepler Universität in Linz, Austria, to collaborate on research on decision diagrams in the group of Robert Wille.

His research interests lie in theoretical computer science, particularly computational complexity theory and algorithm design.

Currently he works at CGI as a software engineer, exploring ways in which industry can adopt newly emerging opportunities in quantum computing.

In his free time, he enjoys playing the cello and doing gymnastics.

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