

Unathi Koketso Skosana

Department of physics,
Merensky Building,
Merriman Ave, Stellenbosch, 7600

website unathi.dev
github github.com/Unathi-Skosana
email [ukskosana at gmail dot com](mailto:ukskosana@gmail.com)

EDUCATION

2022 – present **PhD** Quantum computing, Stellenbosch University (SU)
2020 – 2022 **MSc** Quantum computing (*cum laude*) [[read here](#)], Stellenbosch University (SU)
2019 – 2020 **Hons** Theoretical Physics (*cum laude*), Stellenbosch University (SU)
2016 – 2018 **Bsc** Theoretical Physics (*cum laude*), Stellenbosch University (SU)

WORK EXPERIENCE

2022 – present Research intern, IBM Research Africa
2018 – 2021 Teaching assistant (undergraduate physics 114/144), Stellenbosch University

GRANTS AND RECOGNITION

2020 – 2021 Undergraduate (department of physics) top achievers, Stellenbosch University (SU)
2020 – 2022 Masters Research Grant, Council of Scientific and Industrial Research (CSIR)
2017 – 2019 Undergraduate/Honours Programme, Square Kilometer Array (SKA)
2016 – 2017 Merit Award Bursary, Stellenbosch University (SU)

PAPERS

2021 Unathi Skosana and Mark Tame “Demonstration of Shor’s factoring algorithm for $N = 21$ on IBM quantum processors”. In: *Sci Rep* (Aug 2021). DOI: [10.1038/s41598-021-95973-w](https://doi.org/10.1038/s41598-021-95973-w). arXiv: [2013.13855 \[quant-ph\]](https://arxiv.org/abs/2013.13855)
2021 Unathi Skosana and Mark Tame “On the advantages of relative Toffoli gates”. In: *Corrigenda to The Proceedings of SAIP2021, the 65th Annual Conference of the South African Institute of Physics* (Apr 2022). pp. 14 - 21. ISBN: 978-0-620-97693-0. Online: <http://events.saip.org.za>

PUBLIC SPEAKING

2022 “Introduction to Quantum Computing Workshop” South African Institute of Industrial Engineers (SAIIE). 05 October
2022 “Introduction to Quantum Computing” South African Institute Electrical Engineers (SAIEE). 30 August
2021 “On the advantages of relative phase Toffolis” South African Institute of Physics (SAIP) [[view here](#)]. 28 July
2019 “Modeling of Measurement-based Quantum Computing on IBM Q Experience Devices” Quantum Africa V conference / WitsQ Summer School [[view here](#)]. 5 Sept/10 Dec

SELECTED PROJECTS

2021 – 2022 Server/client code for controlling hyperentangled photonic light source [[found here](#)]

MISCELLANEOUS

2022 [Qiskit Advocate](#), Qiskit

2022 [IBM Certified Associate Developer](#), Quantum Computation using Qiskit v0.2X

2022 [IBM Quantum Spring Challenge 2022](#), Qiskit

2022 [Qiskit Advocate Mentorship Program Fall 2022](#), Qiskit

2020 [Qiskit Global Summer School 2020](#), Qiskit