

# Zola Mahlaza

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## Languages

IsiXhosa, English, and IsiZulu

## Education

Ph.D. Computer Science, University of Cape Town, 2018-Current  
*Area : Natural language generation*  
*Supervisor : A/Prof. C. Maria Keet*

MSc. Computer Science, University of Cape Town, 2016-2017  
*Area : Natural language generation*  
*Thesis: Grammars for generating isiXhosa and isiZulu weather bulletin verbs*  
*Supervisor : A/Prof. C. Maria Keet*

BSc. (Hons) Computer Science, University of Cape Town, 2014.  
*Report: Supporting co-located interactions using the Raspberry Pi*  
*Supervisors : Prof. Edwin Blake, Thomas Reitmaier, and Pierre Benz*

Bsc. Computer Science, University of Cape Town, 2011-2013

## Experience

- 1. Undergraduate Researcher, Summer Undergraduate Research Experience, Department of Computer Science, University of Cape Town. 2012**  
I was working 3d printing — the solid freeform fabrication process of creating objects in layers. In particular, my responsibility was to investigate what could make a mesh not suitable for printing, I also investigated methods of fixing a mesh to make it suitable for 3d printing. This was illustrated using Blender 2.66a.  
Supervisor : Associate Professor James Gain ([REDACTED])
- 2. Intern (J2ME Developer) at Mxit Lifestyle (Pty) Ltd. June-July 2013**  
I developed homepage prototypes for the Mxit client. I also developed an application to investigate positioning (gps) functionality using jsr172 and HERE maps api for the Nokia Asha range  
Mentor : Andy Volk ([REDACTED])
- 3. Software Development Intern at Vastech (Pty) Ltd. Dec 2014-Jan 2015.**  
I developed a tool that will convert a BNF file (conforming to the GOCC syntax, see <https://code.google.com/p/gocc/>) for any language to a SublimeText Syntax Highlighting Plugin. This tool was written in Go, however, it uses a python library for some regular expression logic. It can be found at <https://github.com/AdeebNqo/sublimegen>.  
Mentor : Walter Schulze ([REDACTED])

4. **Android Developer at Zapper (Pty) Ltd. Feb 2015-Feb 2016**  
I was part of the Android Team in charge of maintenance, improving and feature addition to the ZapZap Mobile Utility (<http://www.zapzap.mobi>) Android application.
5. **Teaching Assistant at Computer Science Department, UCT. Feb 2016-Nov 2016**  
I was responsible for administrative issues on the running of tutorials, marking of assignments and tests, and invigilating tests and exams of CSC3002 and CSC3003 (Third year computer science).  
Course Convener : Professor Tommie Meyer (██████████)
6. **Teaching Assistant at Computer Science Department, UCT. March 2017-June 2017**  
I was responsible for administrative issues on the running of tutorials, marking of assignments and tests, and invigilating tests and exams of CSC3002 (Third year computer science).  
Course Convener : Professor Tommie Meyer (██████████)
7. **Teaching Assistant at Computer Science Department, UCT. October 2017-Nov 2017**  
I was one of three CSC1016 (First year computer science) teaching assistants. We were responsible for managing approximately 36 tutors, administrative issues on the running of tutorials, marking of assignments and tests, and invigilating tests and exams.  
Course Convener : Associate Professor. C. Maria Keet (██████████)
8. **Research Assistant at Computer Science Department, UCT. October 2017-March 2018**  
I worked for C. Maria Keet on a joint research project run by the University of Edinburgh and the University of Cape Town. The goal of the project was to building a English-IsiXhosa machine translation system and a phone application that will be used by South African medical doctors to translate text from English to isiXhosa, one of the eleven South African official languages.  
Principal Investigators : Associate Professor C. Maria Keet (██████████), Dr. Kenneth Heafield (██████████), and Dr. Alexandra Birch (██████████)
9. **Teaching Assistant at Computer Science Department, UCT. Feb 2018-June 2018**  
I was responsible for administrative issues on the running of tutorials, marking of assignments and tests, and invigilating tests and exams of CSC3002 (Third year computer science).  
Course Convener : Associate Professor Patrick Marais (██████████)
10. **Communications manager at Digital Libraries Laboratory, Computer Science Department, UCT. Feb 2018-**  
I am responsible for the research group's (<http://dl.cs.uct.ac.za/>) communications, maintenance of website, and other administrative tasks.  
Group's staff : Associate Professor Hussein Suleman (██████████) and Associate Professor C. Maria Keet (██████████)

## Talks

1. Science Postgraduate Students Council (SPSC) Symposium, University of Cape Town, Cape Town, 2017, Poster Presentation.
2. South African Institute of Computer Scientists and Information Technologies (SAICSIT) Masters & Doctoral Symposium, Thaba Nchu, 2017, Oral and Poster Presentation.
3. Institute for Language, Cognition and Computation Seminar, The University of Edinburgh, Edinburgh, March 2018, Oral Presentation.
4. 14th Annual Symposium on Future Trends in Service-Oriented Computing, Hasso Plattner Institute, Potsdam, April 2019, Oral Presentation.

5. HPI Research School at UCT 2019 Workshop, University of Cape Town, Cape Town, November 2019, Oral Presentation.

## Publications

1. **Z. Mahlaza** and C. M. Keet. "Measuring Verb Similarity Using Binary Coefficients with Application to isiXhosa and isiZulu". In: Proceedings of the Annual Conference of the South African Institute of Computer Scientists and Information Technologists. SAICSIT'18. Port Elizabeth, South Africa: ACM, 2018, pp. 65-71.
2. **Zola Mahlaza** and C. Maria Keet. "A classification of grammar-infused templates for ontology and model verbalisation". In: Metadata and Semantic Research - 13th International Conference, MTSR 2019, Rome, Italy, October 28-31, 2019.
3. C. M. Keet, **Z. Mahlaza**, and M.-J. Antia. "CLaRO: a Controlled Language for Authoring Competency Questions". In: Metadata and Semantic Research - 13th International Conference, MTSR 2019, Rome, Italy, October 28-31, 2019.
4. **Mahlaza, Zola** and Keet, C. Maria. A method for measuring verb similarity for two closely related languages with application to Zulu and Xhosa. In: South African Computer Journal, 31, 34-56.

## Supervision

1. A comparison of end-to-end models and templates for generating text (Honours project), Jarryd Dunn and Matthew Poulter. University of Cape Town, 2019.

## Awards

1. Hasso Plattner Institute Doctoral Fellowship, University of Cape Town, Feb 2018
2. Entelect 2019 Best Postgraduate Publication Award, University of Cape Town, Computer Science, Oct 2019
3. Best Student Paper Award, 13th International Conference on Metadata and Semantics Research (MTSR2019), Oct 2019

## Personal projects

1. **Sole maintainer of Thula SMS**

Thula is an Android application built for a South African audience in mind. It gives it's users a spam filtering/anti-annoyance capability. It is forked from QKSMS, an application that "[...] brings a refreshingly beautiful and responsive Material Design touch to the stale state of text messaging. In a world with clunky SMS and MMS apps cluttered with bloat and ads, QKSMS is something to get excited about. We're making texting magical again." (Moez Bhatti, <https://github.com/moezbhatti/qksms>). Most South Africans receive annoying spam text messages ranging from competitions, life insurance, and other unsolicited offers. The frequency varies based on the mobile network. This application is made to assist in the fight against spam. More information can be found at <http://adeebnqo.github.io/Thula/>

## 2. 1 of 3 software developers of GetWrecked

Get Wrecked is a platformer puzzle game targeting Android mobile devices. The main character is tasked with travelling to the afterlife, but discovers that dying once is not enough: there are multiple intermediate worlds other than life on Earth. These worlds are represented by separate levels within the game, and the goal is for the player to help the main character reach the afterlife. Therefore, reaching the afterlife will require numerous deaths. Each time the main character dies, he gets one step closer to the afterlife. Each level presents the player with one or more ways to kill the main character, and they have to explore the level and figure out how to do so creatively. Killing the main character will allow his soul to ascend to the next level, where new challenges will be presented. The game is completed once the main character completes his ascension (at which point the player will be able to ascend to the afterlife). More information can be found at <https://people.cs.uct.ac.za/~zmahlaza/site/getwrecked.html>

## Notes

A number of contact details have been redacted.  
(Last updated; February 3, 2020)