NATALIA DAMBE - CV

Ph.D. Student | Graduate Teaching Assistant | Professional Geo-Information Sciences Practitioner

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1. CAREER PROFILE

Registered Geo-Information Sciences Practitioner with the South African Geomatics Council. Has at least eight years of experience in academia as a Teaching Assistant (Instructor, Tutor, Grader), and as a Geo-information specialist. That also includes three years of experience in renewable energy project development, five years in academia and research, and two years in engineering (surveying) development projects. Very passionate about child and youth development through volunteering at orphanages and secondary school career development programs in Malawi, and high school tutoring in a disadvantaged township community in South Africa. Possesses strong spatial data analysis, management and manipulation, teaching, research, facilitation, scientific writing, and reporting skills.

2. EDUCATION

University of Florida (UF)
Ph.D. in Geography (Geographical Information System Major)   2022 - Current
  Thesis dissertation: Drivers of Renewable Energy Transition (Thesis dissertation: Drivers of Renewable Energy Transition (Siting location as an impact of drought, climate Variability, and social impacts).

University of Cape Town (UCT)
Masters in Geomatics (GIS and Remote Sensing Major)   2020
- UCT MasterCard prestigious scholarship award
- Design Thinking program completion award
- Thesis dissertation: Riverine flooding using GIS and remote sensing, case study of Chikwawa, Malawi

Honour's Degree in Geographical Information Systems (GIS)   2016
- Mandela Rhodes Prestigious Scholarship award
- Relevant coursework: Remote Sensing, Introduction and Advanced Geographical Information Systems (GIS), Professionalisms, Photogrammetry, GIS Programming

University of Malawi (UNIMA)
Bachelor's Degree in Geomatics (Land Surveying)   2014
- Outstanding student in the Built Environment award
- Outstanding female representative award for Catholic Student Organisation
- Student council representative and Director of Academic Affairs

3. TRAINING/ WORKSHOPS/ CERTIFICATES ATTENDED/CONFERENCES

- Guest lecturer - Future of Energy Course at the University of Florida; topic: "Loadshedding in South Africa" (Fall 2022, Spring 2023 and Fall 2024)
- Women Lead - UF Institute for Early Career Scholars, 2023 (Fall 2023: 4 Months)
- Research Paper Presentations: Florida Geography Society (UF Campus, 2025), American Association of Geographers (Hawaii, 2024), UF Water Institute (UF Campus, 2023), The Southeastern Division American Association of the Geographers Annual Conference, (Atlanta, Georgia, 2022)
- Summer Graduate Institute Writing Workshop - UF Center for Humanities and the Public Sphere, 2023 (1 Week)
- Fostering Inclusive Communities – Teaching Certificate, the University of Florida, 2022 (3 Months)
- Geo-information Society of South Africa (GISSA) virtual workshops and general meeting, 2019 – 2021.

- Africa Career Network (ACN's) Entrepreneurs' Launchpad, 2021 (1 Day).
- Research Paper Presentations: Meeting of the Minds Symposium hosted by Carnegie Mellon University, Kigali Convention Centre, Rwanda, 2019 (2 Days)
- Certificate in Sustainability in ICT Entrepreneurship, UCT & Nelson Mandela University, Cape Town, South Africa, 2018 (2 Weeks).
- Certificate in Design Thinking, Hasso Plattner Institute of Design Thinking, UCT, Cape Town, South Africa, 2018 (6 Months).
- Leadership development and training centred on African approach to personal development; entrepreneurship, financial literacy by University of Cape Town MasterCard Foundation Scholarship, South Africa, 2017/2018 (6 weeks).
- Certificate in Radar Remote Sensing, the Friedrich-Schiller University in Jena, Germany, 2017 (1 Month).
- Practical Geographical Information Systems (GIS) by Regional Centre of Mapping Resources for Development (RCMRD) in Nairobi, Kenya, 2017 (3 weeks).
- Leadership Development Program Workshops critically engaged with four principles of reconciliation, education, entrepreneurship, and leadership by Mandela Rhodes Scholarship, Cape Town, South Africa, 2016 (4 Weeks)

4. PROFESSIONAL EXPERIENCE

University of Florida (UF)   Florida, The United States
Graduate Teaching Assistant   February 2022 - Present
- Develop and teach *World and Big Data*, focusing on the fundamental characteristics of big data and its applications.
- Guide undergraduate students in techniques for collecting, storing, managing, processing, analyzing, and visualizing big data.
- Facilitate hands-on learning in retrieving and visualizing big spatial datasets while addressing challenges in big spatial data use.
- Emphasize practical applications of big data to solve real-world problems.

Previous Courses Taught:
- World and Big Data (Spring 2024, 2023, 2022; Summer B 2024)
- Future of Energy (Fall 2024)
- Global and Regional Economies (Summer A 2024; Summer A 2025)

ENERTRAG South Africa   Cape Town, South Africa
GIS Project Planner   February 2019 - 2022
- Built, maintained, and managed a spatial geodatabase for all the projects in the 9 provinces in South Africa.
- Led a team of 3 to create and present day-to-day renewable energy facilities' (Solar, wind, hybrid, hydrogen) maps, layouts, and environmental and regulatory analysis as regulated by the South African Department of Forestry, Fisheries, and the Environment; Eskom; and Department of Energy and provide spatial data and mapping input for all permitting applications and specialist studies for Environmental Authorization; land negotiations; and procurement.
- Improved the prefeasibility/screening analysis process speed to identify new project sites by 90% by creating a prospecting framework.
- Designed, prepared, and facilitated the updating of the site development visualization tools by integrating QGIS, Google Earth, and Excel to inform senior management of project progress and statuses.
- Developed and standardized data storage structures, map templates, map symbology, and map print layouts to streamline quality, quick, and consistent map output.
- Contributed to competitors' analysis database and cost estimation by manipulating and mapping raw data that translated into cost estimates of all the competitors using Excel and QGIS plugins.
- Facilitate the Annual Energy Production computations and reports for all South African solar and wind sites.

- Actively updating and sourcing locally and globally all the spatial data necessary for renewable energy development, including topographical, wind, and solar resources, biodiversity, and satellite data.
- Traveling to project sites to collect data, assist in permitting, and participate in industry conferences.
- Providing input into investment due diligence and financing support.
- Providing site intelligence and field services, including construction screening, on-site instrumentation audits, and analyses.
- Providing meteorological instrumentation and siting recommendations.

Cape Peninsula University of Technology (CPUT)   Cape Town, South Africa
Part-time GIS Lecturer   March- July 2021
- Designed, planned, and prepared lecturing materials, practical work, assignments, and tests for 19 second-year GIS Diploma level and 15 third-year students for one semester.
- Lectured 3 hours a week and assessed students' work and general administration.

University of Cape Town (UCT)
Research Assistant- the Department of Civil Engineering   August – December 2018
- Analyzed and visualized children's road injury data using Microsoft Excel, IBM SPSS, and ArcGIS software, a project funded by UNICEF through the ChildSafe organisation.
- Mapped children's road fatalities that fed into reports.
- Developed concept notes based on project developments through literature review, describing the methodology, analysis, and findings.

Part-time Geomatics Tutor, Geomatics Division   July 2016 – December 2018
Tutored and demonstrated practical work, invigilated, and marked exams of 3 different Courses:
- Construction Surveying with 40 second-year civil engineering students (2nd Semester 2016 and 1st Semester 2017).
- Programming in GIS with 21 Honours GIS students (1st Semester 2017).
- Introduction to GIS with 43 students; and advanced GIS with 51 students (2nd Semester, 2017).

Kartoza co. Ltd   Stellenbosch, South Africa
Remote Sensing and GIS Intern   December 2017 - January 2018
- Performed successfully map styling for data architecture and image classification to quantify land use.
- Performed documentation fixes through quality analysis of the QGIS Training Workshop Materials.

Snow Mountain Engineering Corporation (SMEC)   Blantyre, Malawi
Field Supervisor   September 2014 - May 2015
- Facilitated and supervised (the Resettlement Action Plan and Livelihood Restoration Development Plant Project for Malawi Challenge Account) affected farm surveys of 1965 plots by the ESCOM planned 400kV line, and documented all affected farm inventory in Dedza, Ntcheu, and Balaka Districts.
- Mapped and prepared compensation schedules database for all affected participants.
- Achieved 95% in data collection and quality checks and provided recommendations to the Information Technology Team on the improvements to be made to the design of the project.

Blantyre Water Board   Blantyre,
Malawi   *Graduate Intern*
March - August 2014
Assisted in hydrographic, topographic and pipeline surveying.

Shire Construction Co.   Lilongwe, Malawi
Apprentice Land Surveyor   January 2012 – December 2013

- Completed setting out vertical and horizontal lines for 4.2km dual carriageway as part of the construction of the Chipembere Highway in Blantyre
- Designed level profile and cross sections using AutoCAD software for construction of 33km Msulira to Nkhotakota Game Reserves Road.

5. PUBLICATIONS

- Dambe N., Smit J. (2021) Application of Low to Medium Resolution Data for Hydrological Modeling in Malawi. In: Froehlich A. (eds) Space Fostering African Societies. Southern Space Studies. Springer, Cham. https://doi.org/10.1007/978-3-03059158-8_4
- Dambe, N. 2020. Riverine flooding using GIS and remote sensing, Engineering and the Built Environment, School of Architecture, Planning and Geomatics. https://hdl.handle.net/11427/31738

6. VOLUNTEER EXPERIENCE

- **Regional Centre for Mapping of Resources for Development (RCMRD)** - Nairobi, Kenya: (June - August 2017 Remote Sensing and GIS Intern
- **Nyanga Community** - Cape Town (2016 – 2018): high school mentor
- **UCT –** Cape Town (2017/2018): UCT MasterCard peer mentor
  Ministry of Lands, Department of Surveys – Lilongwe, Malawi (June 2015 – November 2015): Graduate Land Surveying Intern
- **Centre for Community Organisation and Development (CCODE)** - Blantyre, Malawi (November 2013): Student Volunteer for Slums Upgrading Project

7. LANGUAGE PROFICIENCIES

English, Chichewa, Nyanja

8. SKILLS

Quantitative and Qualitative Research: Through dissertation writing, publications, and research methods courses.

Communication: Through excellent English writing, reading, and speaking skills, teaching, tutoring, and presentation of projects.

Analytical Skills: Analysis of road injury data, evaluating geographically related problems using Geographical Information Systems (GIS), monitoring, and evaluating the progress of students as a tutor.

Technical Skills: Proficiency in spatial analysis, mapping, and visualization software: AutoCAD, ArcGIS, ENVI software, Microsoft Office (Excel, Word, Publisher), Ecognition software, Excel.

Organizational: Developing students' teamwork, interpersonal and action-planning skills

Problem-Solving: Developed through handling community projects during my involvement in University Societies, degree coursework, and thesis projects, coordinating students as a tutor.

Teamwork: Collaboration with Project Managers in wind farm facility development processes; through class group work, being a supervisor for the Resettlement Action Plan and Livelihood Restoration Development Plant Project; and full engagement in Design Thinking programs.