

Data Science for Business at UKZN



UNIVERSITY OF
KWAZULU-NATAL™
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FOUNDATION

High Demand and Critical Shortage of Data Science Skills in the Workplace

Recent research indicates that demand for Data Scientists is booming and is only likely to increase in the next decade as companies are challenged to move towards digital transformation and big data, with machine learning and high-end data analytics becoming entrenched in businesses and industry globally.

An article published in *TechTarget* in 2019 found that data scientists entering the job market are more in demand than ever, while *Algorithmia*, in their 2020 State of Enterprise Machine Learning report, likened the need for Data Science to a “modern-day gold rush”. Now, UKZN is partnering with business and industry to strengthen the output of graduates with the requisite training to fill this skills gap, aiming for graduates with a level of practical big data skills and knowledge that make them employer-ready immediately after graduation.

UKZN’s Intervention to Promote Knowledge Production and Skilled Support in Data Science

UKZN is establishing a Data Science training initiative, which aims to provide much needed knowledge production and support in Data Science for business and industry.

The main aim is to produce Data Science graduates with work experience in high end data analytics, DIRECTLY linked to the workplace, thus promoting the production of “work ready” graduates.

Collaborations with Business and Industry will serve to inform training needs in Data Science, from undergraduate through to postgraduate level, as well as informing the need for tailor-made training in Data Science, which will be offered to industry.

The UKZN Data Science for Business Training Objectives

- To produce the world's finest data scientists who have mastered complex methods for large-scale data modelling directly linked to the workplace, thus promoting the production of “work ready” graduates.
- To derive and effectively communicate actionable insights from a vast quantity and variety of data. The training enhances passion for solving challenging problems guided by intellectual curiosity, teamwork and striving to attain the highest level of professionalism through continuous self-improvement.
- Data science training covering a broad spectrum of activities, including data management and quality; data wrangling and data intuition; project management; team work; business acumen; mathematical, statistical and computer programming hard and soft skills for data modelling; and techniques for visualising data in support of enterprise-wide decision making.

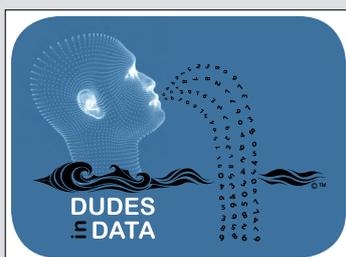


Strategic Engagement



The UKZN Data Science Flagship Programme

- BSc, Postgraduate Diploma, and Masters in Data Science, with training rooted in needs of Business and Industry.
- Data Science Masters and Postgraduate Diploma students as interns in companies to promote cutting-edge, industry-linked research, emanating from the workplace.
- Tailor-made Data Science training and short courses for Business and Industry.
- Promotion of STEM Education at school level through projects and activities aimed at advocating for studies in Data Science amongst high school learners.



Established Supporting Technology Partnership

SAS® South Africa

- Established a multimillion ZAR partnership to provide appropriate Data Science and Analytics Software for Teaching and Research purposes in Data Science at UKZN.
- Facilitates and supports collaboration with Intel Corporation and Redhat.
- Grants SAS® Data Science certifications to the UKZN Data Science for Business programme graduates.
- Facilitates and supports the institution's global partnerships with industries and academia.

Established International Collaboration



Value proposition to Industry and Business Partners

Skilled Resource Pipeline:

- Participate in, and leverage the academic activities in Data Science for Business initiatives, including: Curriculum Review, Industrial Research, Student Projects, Student Internships and Thought Leadership
- Industry Partner having first right of refusal of available students
- Customized short courses and update lectures to Industry partner staff

B-BBEE:

- Access to South African demographically relevant, work-ready Professional Masters graduates
- Industry Partner demonstrating investment commitment to Broad-based Black Economic Development of youth

Marketing:

- Marketing presence through UKZN's media channels, the supporting technology partners

marketing channels and its own marketing channels

- Physical branding on the structures at UKZN

Technology access:

- Access to a Data Science Technical Sandbox at UKZN, which includes supporting technology and other open source software technologies
- Access to other disciplines at UKZN from an integrated perspective (eg. Engineering, Visualization, etc.)
- Access to UKZN Thought-Leaders and associated international academic collaborations
- Access to and participation in industrial research

Low-risk Investment:

- The industry partner having management input through permanent member status on the Data Science for Business' Industry Advisory Board at UKZN

UKZN@ a Glance

The University of KwaZulu-Natal strives to be a truly South African university that is academically excellent, innovative in research, critically engaged with society and demographically representative, redressing the disadvantages, inequities and imbalances of the past. In achieving its goals, UKZN can claim the following:

- UKZN is consistently ranked among the top four universities in South Africa.
- In 2020 it was ranked among the top 400 best performing universities in the world according to the Times Higher Education (THE) rankings. This places it in the top 3% of world universities.
- UKZN was named one of the top 100 Young Universities by THE in 2018.
- uniRank listed UKZN as the number one most popular university in Africa.
- UKZN has more than 47 000 students enrolled in its programmes.
- In 2019, 12 006 degrees and diplomas were awarded of which 483 (4%) were doctorates.
- Of the 2019 graduates, 61% were women.

UKZN Foundation

The University of KwaZulu-Natal Foundation (UKZNF) is the official fundraising arm of the university. UKZNF is a registered charitable trust (number IT589/03), a public benefit organization (number 930016101) and a nonprofit organization (number 030-967-NPO) under South African Law. The Trust is associated with charitable entities in the United Kingdom and the United States. The UKZN Foundation seeks funding for projects that aim to advance human, environmental and global well-being, as well as benefit the local communities served by the University. The Foundation mission is to provide an efficient and effective fundraising service, which supports the development of UKZN and addresses the needs and aspirations of our donors.

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