



Charlene Mncube

About

Experienced Civil Engineer with demonstrated programming, data management, and problem-solving skills with proven ability to work independently and collaboratively to achieve organizational goals. Passionate about developing innovative solutions and strategies to assist with complex business problems in a dynamic, engaging, and purpose-driven environment.

Experience

Zutari (Aurecon Seconded) - Civil Engineer (Transportation) Global Design Centre

Pretoria, Gauteng

February 2020 – Current

- Analyzed topographical and geological data, survey reports, maps, and blueprints to effectively plan infrastructure projects using GIS and Project Management tools
- Accurately designed and drafted specifications and requirements for transportation projects using AutoCAD, 12d model and Synergy, Navisworks, Bluebeam
- Reviewed calculations and analyzed data to compile technical reports
- Coordinated project delivery with colleagues to ensure the final output was to the required standard
- Liaised with clients in Australia and New Zealand to ensure a good relationship was maintained

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Education

May 2020

Bachelor of Engineering in Civil Engineering Sciences (Honors) University of Johannesburg
NQF Level: 8

Dissertation: Impact of the Fourth Industrial Revolution on the Civil Engineering Industry

December 2020

National Certificate 48872: IT Systems Development

Explore Data Science Academy

NQF Level: 5

Relevant Coursework: Data Gathering and Management, Analytical Programming, Data Visualization, Machine Learning, Model Deployment

December 2014

National Senior Certificate
Wendywood Highschool

Explore Data Science Academy - Data Science Student

Johannesburg, Gauteng

January 2020 – December 2020

- Designed and managed a database on Eskom's future demand using historical data
- Created a dashboard using visualization tools to determine Eskom's future electricity demands
- Used regression techniques to predict accurate arrival times of a package for a logistics company
- Used classification techniques and Natural Language processing techniques to classify a person's beliefs in climate change using their novel twitter data
- Clustered unsupervised data on movie recommender algorithms
- Presented findings using various communication tools

University of Johannesburg - Undergraduate Teaching Assistant

Johannesburg, Gauteng

July 2019 – December 2019

- Assisted lecturer with classroom management and coordination, prepared lessons, proctored assignments, and tests and provided grades according to university standards

Services and Affiliations

- McKinsey Forward Africa Program | Participant | 2021-2022
- Engineering Council of South Africa | Candidate Engineer | 2021-Present
- McKinsey Women in Engineering | Cohort Alumni | 2022-2022
- Aurecon Roads Learning Week | Future Week Presenter | 2021-2021
- StudieTrust | Student Mentor | 2019-2021
- Microsoft Safe@Home Hackathon | Team Member | 2020-2020
- UJ Civil Student Society | Student Member | 2017-2019
- BIMcommUNITY Africa | Member | 2020-Present
- Investec World-Readiness Program | Alumni | 2018-2018
- Engineers Without Borders | Volunteer | 2017-2019
- Cell C Take a Girl Child to Work | Participant | 2012-2014

Accomplishments

- UJ CIVILS' Exceptional Participation Award -2018
- Concrete Society of Southern Africa Boat Race 3rd place -2018
- Triple Honors in Academics, Service, and Softball - 2014
- SAICA Physics Award - 2013

Skills

Data Science and Miscellaneous

Technologies: Data Science Pipeline (Gathering, Cleansing, Wrangling, Exploring/Visualization of data), SQL, MS Power BI, HTML, EDA, ETL, Time Series Analysis, APIs, AWS, Statistics, Git, MS Office

Programming languages: Python

Machine learning: Python (e.g., NLP, Sci-Kit Learn, NumPy, Pandas, Matplotlib)

Engineering: Problem Solving, Reasoning, Design Thinking, Investigations, Experiments and Data Analysis, Application of Scientific and Engineering Knowledge, Professional and Technical Communication, Independent Learning Ability, Engineering Professionalism, Team, and Multidisciplinary Working

Business Analysis/ Consultive Skills:

Problem Solving, Structured and Strategic Thinking, Self Leadership, Impactful Communication, Design Thinking, Digital Literacy, Mentoring

Interpersonal: Adaptable, Resourceful, Reliable, Resilient, People- Centric, Conscientious, Intellectually Inquisitive

References

Available upon request