

Tinashe Chingozha

Data Scientist

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Work Experience

- 2022–present **Data Science and Modelling Specialist, Opti-num Solutions.**
- Currently responsible for developing machine learning models for customer value management for telecommunications companies.
 - Developed machine learning models for fault detection in smart mining and manufacturing processes.
- 2019–2022 **Data Scientist, Isazi Consulting .**
- Successfully developed a comprehensive data strategy for a large manufacturing company with the potential of unlocking up to R250 million revenue growth through optimization of business processes using machine learning/AI tools.
 - Created statistical and machine learning models for demand forecasting for a large FMCG company.
 - Developed dashboards for visualizing model results and on-the-fly model parameter optimization.
- 2017–2019 **Sessional Lecturer, University of the Witwatersrand, Centre for Part-time Studies.**
- Designed and delivered lectures and assessments for the Signals and Systems course to third year engineering students.

Education

- 2014–2019 **Ph.D Electrical Engineering, University of the Witwatersrand, Johannesburg,** Thesis title : “Stabilizability preserving quotients for nonlinear control systems”.
- 2013–2014 **MSc(Eng) Electrical Engineering, University of the Witwatersrand, Johannesburg.**
- 2009–2012 **BSc(Eng) Electrical Engineering, University of the Witwatersrand, Johannesburg, with distinction.**
- Dean’s list 2009 - 2011
 - Hulamin prize for best industrial control final year project 2012

Technical Skills

- Programming languages : R, Python, MATLAB, C++ and SQL
- Data visualization and dashboard development in R Shiny
- Dynamical system modelling and simulation using MATLAB SIMULINK
- Deep learning model development using Tensorflow and Keras
- Large Language Models fine-tuning using HuggingFace API.
- Statistical and machine learning model development in R

Publications

- [1] Ayushi Malan, Otis T. Nyandoro, and Tinashe Chingozha. High performance ash fusion temperature measurement. In *IEEE 8th Conference on Industrial Electronics and Applications*, pages 1364 – 1369, 2013.
- [2] T. Chingozha, O. T. Nyandoro, and A. van Wyk. Stabilizability preserving quotients of non-linear systems. *arXiv e-prints*, page arXiv:1903.07881, Mar 2019.
- [3] T. Chingozha, O. T. Nyandoro, and M. A. van Wyk. Stabilizability preserving quotients for nonlinear systems. *IFAC-PapersOnLine*, 54(21):61–66, 2021. Control Conference Africa CCA 2021.
- [4] John E.D Ekoru, Otis T. Nyandoro, and Tinashe Chingozha. An Udwadia-Kalaba equation based active seat suspension controller for mining dump trucks. *IFAC-PapersOnline*, 49:184–189, 2016.
- [5] Otis T. Nyandoro and Tinashe Chingozha. Equivalence of multi-formulated optimal slip control for vehicular anti-lock braking system. In *19th World Congress of The International Federation of Automatic Control*, pages 7566 – 7571, August 2014.
- [6] Tinashe Chingozha and Otis T. Nyandoro. Adaptive sliding backstepping control of quadrotor UAV attitude. In *19th World Congress of The International Federation of Automatic Control*, pages 11043 – 11048, August 2014.
- [7] Tinashe Chingozha, Otis T. Nyandoro, and Ayushi Malan. A low cost controller for a small scale helicopter. In *IEEE 8th Conference on Industrial Electronics and Applications*, pages 439 – 444, 2013.
- [8] Tinashe Chingozha, Otis T. Nyandoro, Michael A. van Wyk, and John E.D. Ekoru. Stabilizability preserving quotients and partial feedback stabilization. *IFAC-PapersOnline*, 50:203 – 208, 2017.

References

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