# BIOGRAPHICAL SKETCH

NAME: Busogi, Moise

eRA COMMONS USER NAME (credential, e.g., agency login): N/A

POSITION TITLE: Assistant Teaching Professor

EDUCATION/TRAINING

| INSTITUTION AND LOCATION | DEGREE | Completion Date | FIELD OF STUDY |
|---|---|---|---|
| Ulsan Institute of Science and Technology (UNIST) | Ph.D. | 2017 | System Design and Control Engineering, |
| Korea Advanced Institute of Science and Technology (KAIST) | B.S. | 2011 | Industrial and System Engineering |

## A. Personal Statement

I am an assistant teaching professor at Carnegie Mellon University Africa. My areas of expertise span operations research and artificial intelligence, with a diverse range of applications, including geospatial data analytics and computer vision. Currently, I am engaged in a collaborative effort with the Rwanda Space Agency, working towards the democratization of geospatial data to enhance agricultural production. In addition to my role at Carnegie Mellon University Africa, I serve as the deputy director at the Kigali Collaborative Research Centre (KCRC). The goal of KCRC is to foster an environment conducive to collaborative research and innovations in Africa.

## B. Positions and Honors

- 2022-Present: Deputy Director & Research Fellow, Kigali Collaborative Research Centre (KCRC), Rwanda

- 2022-Present: Assistant Teaching Professor, Carnegie Mellon University Africa, Rwanda

- 2020-2022: Instructor, Carnegie Mellon University Africa, Rwanda

- 2019-2020: Scholar-in-Residence, Carnegie Mellon University Africa, Rwanda

- 2017-2019: Research Fellow, Center for Advanced 3D Additive Manufacturing, Republic of Korea

## C. Contribution to Science

1. Lee, J., Chesang, A., Gichane, M., Busogi, M., Byiringiro, J., & Tucker, C. (2023, August). Reducing the Barriers to Designing 3D-Printable Prosthetics In Resource-Constrained Environments. In International Design Engineering Technical Conferences and Computers and Information in Engineering Conference (Vol. 87318, p. V03BT03A020). American Society of Mechanical Engineers.

2. Kimani, G. N., Oluwadara, P., Fashingabo, P., Busogi, M., Luhanga, E., Sowon, K., & Chacha, L. (2023). Cattle Identification Using Muzzle Images and Deep Learning Techniques. arXiv preprint arXiv:2311.08148.

3. Song, D., Chung Baek, A. M., Koo, J., Busogi, M., & Kim, N. (2020). Forecasting warping deformation using multivariate thermal time series and K-nearest neighbors in fused deposition modeling. Applied Sciences, 10(24), 8951.

4. Donghwan, S. O. N. G., Busogi, M., Chung Baek, A. M., & Kim, N. (2020). Forecasting Stock Market Index Based On Patterndriven Long Short-Term Memory. Economic Computation & Economic Cybernetics Studies & Research, 54(3).

5. Oh, Y., Busogi, M., Ransikarbum, K., Shin, D., Kwon, D., & Kim, N. (2019). Real-time quality monitoring and control system using an integrated cost effective support vector machine. Journal of Mechanical Science and Technology, 33(12), 6009-6020.

6. M. Busogi, D. Song, S. H. Kang, and N. Kim, (2019) "Sequence Based Optimization of Manufacturing Complexity in a Mixed Model Assembly Line," IEEE Access, 7, 22096-22106

7. Oh, Y., Ransikarbum, K., Busogi, M., Kwon, D., & Kim, N. (2018). Adaptive SVM-based real-time quality assessment for primer-sealer dispensing process of sunroof assembly line. Reliability Engineering & System Safety.

8. M. Busogi and N. Kim, (2017) "Analytical Modeling of Human Choice Complexity in a Mixed Model Assembly Line Using Machine Learning-Based Human in the Loop Simulation," in IEEE Access, vol. 5, pp. 10434-10444

9. Busogi, M., Ransikarbum, K., Oh, Y. G., & Kim, N. (2017). Computational modelling of manufacturing choice complexity in a mixed-model assembly line. International Journal of Production Research, 55(20), 5976-5990.

10. Busogi, M., Shin, D., Ryu, H., Oh, Y. G., & Kim, N. (2017). Weighted affordance-based agent modeling and simulation in emergency evacuation. Safety Science, 96, 209-227.

11. Kim, J., Busogi, M., Kim, N., Ahn, C. W., Paik, E., Choi, M., ... & Kim, K. (2014). An Agent-Based Approach in Demographic Research: Preliminary Study on Korean Population Dynamics, International Journal of Applied Engineering Research, v.9, no.23, pp.18697 – 18704

12. Busogi, M., Kim, N., Shin, D., Ryu, H. B., Yoo, A., & Kim, D. Bayesian affordance-based agent model for wayfinding behaviours in evacuation problems. Proceedings of International Conference of Human Computer Interaction Las Vegas, Nevada, USA, July 21-26, 2013

13. Busogi, M., Lee, W., Oh, Y., & Kim, N. Computation of Manufacturing Complexity in a Mixed Model Assembly. Proceedings of the 2015 International Conference on Operations Excellence and Service Engineering Orlando, Florida, USA, September 10-11, 2015

14. Oh, Y., Busogi, M., Kim, N., Kim, D., Kim, H., & Yang, H. A SVM-based Quality Assessment using Thermal Image DATA in Sealer Dispensing Process. Proceedings of the 2015 International Conference on Operations Excellence and Service Engineering Orlando, Florida, USA, September 10-11, 2015

**Complete List of Published Work on Google Scholar:**   Moise Busogi

### D. Grant

- 2023–2026: PI- Leveraging additive manufacturing to improve access to quality prosthetic, and orthotic services in developing countries.

- 2023–2024 :PI-An Infrastructure for Remote and In-Situ Collection and Aggregation of Agricultural Data and Its Application to Yield Estimation; National Council of Science and Technology (NCST)

### E. Any other Important information

- Guest Editor, Special Issue of the SAIEE Africa Research Journal

- Member of Smart Africa Artificial Intelligence (AI) working group

- Lead a joint research team for academia-industry research collaboration scheme

- Technical Committee Member in RWANDA FAIR FORWARD PROJECT — Artificial Intelligence for All