AI ANIMALS MONITOR

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VAAL UNIVERSITY OF TECHNOLOGY
Inspiring thought. Shaping talent.

Content

- Problem Definition
- AI Solution
- Benefits of the solution
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Source:
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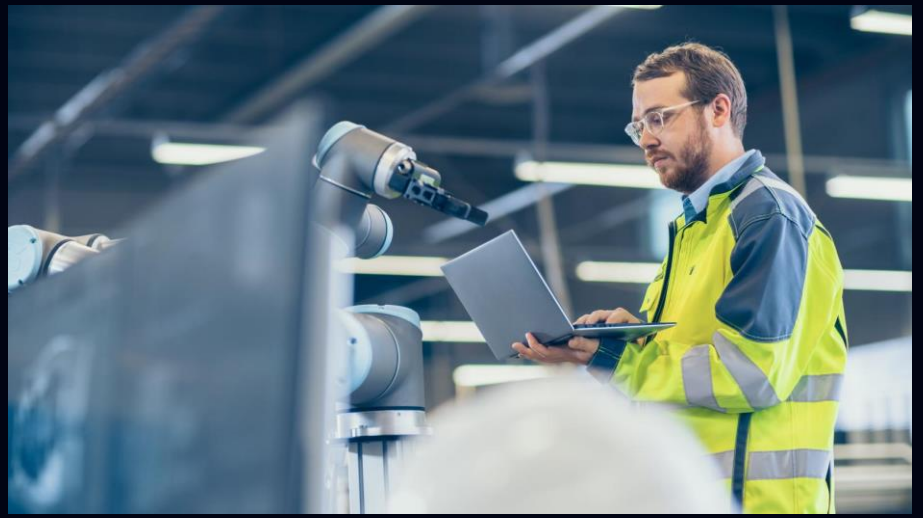
Problem Definition - Protecting Livestock

- Alarming rates of rhino and wildlife poaching
- Shepherds' Concerns
- Robot for livestock care
- Regulating water consumption
- Protecting livestock and wildlife
- Sustainable & responsible livestock management

AI Solution

AI Solution - Smart-Shepherd

- Introduction
- 4IR and Call to Action
- Smart-Shepherd System
- Tasks Performed
- Benefits



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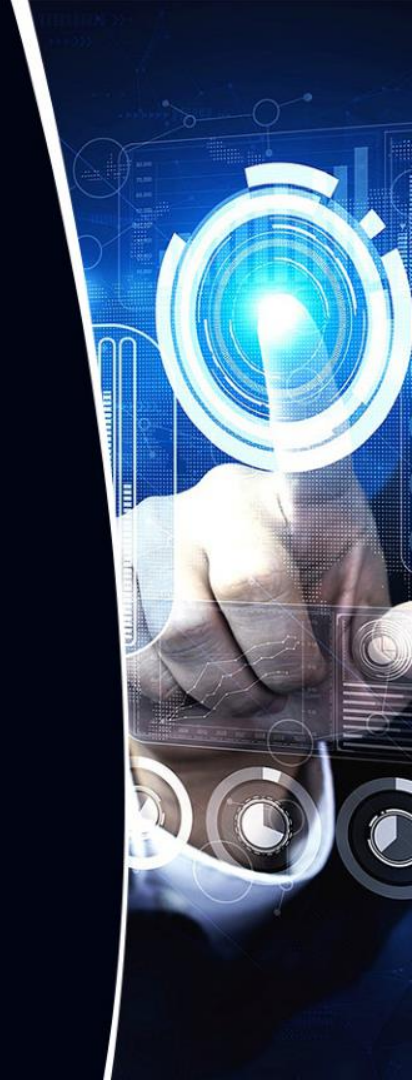
Benefits of the solution

- Detecting diseases in animals
- Counting livestock
- Identifying misplaced livestock
- Reducing livestock poaching
- Ensuring the safety of human workers
- Detecting weather patterns
- Creating job opportunities for IT specialists
- Reducing the risk of sickness



Machine Learning

Machine learning

- **semi-supervised**
- **compare datasets**
- **adapt and balance strategies**

Learning Approaches

- **Kinematics**
- **Bayesian Models**
- **Support Vector Machines**
- **Unsupervised K-Means Clustering**

Data

- **Data Wrangling**
- **Exploring The Data**
- **Baseline Modelling**
- **Classifiers Used To Predict The Model Accuracy**

Natural Language Processing

- NLP for Human Interaction
- Lexical Analysis
- Google Voice Recognition API
- Effective Communication
- Enhancing Human-Computer Interaction

Deep Learning

- Introduction to Deep Learning
- Generating Training Data
- Sensory Input
- Artistic Image Generation
- Object Recognition Training
- Feature Visualization
- Style Representation

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