Elephant detection and localization using infrasound

Outline of the thesis

by

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Chapter 01: Introduction.

- Goal and objectives.
- Research question.
- Background and significance of the project.
- Scope of the thesis.
- Hypothesis.

Chapter 02 : Literature Review.

Related works on :

- Biological researches on elephant communication.
- Behavior of infra sound waves.
- Sound localization.
- Signal classification.
- Acoustic detection of elephants.
- Infra sound recording devices

Chapter 03 : Design and Methodology.

- Introducing Elocate sensors.
- Overview of sound localization.
- Comparison of localization techniques.
- Application of cross correlation using Elocate sensors.
- Feature extraction.
- Signal enhancement.
- Classification using SVM.

Chapter 04 : Implementation.

- Electronic circuit of the sensors.
- Noise reduction techniques.
- Implementation of localization.
- Data collection.
- Implementation of pre processing.
- Training SVM.
- Testing the model.

Chapter 05 : Results and Evaluation.

- Results of each experiment conducted.
- A comprehensive analysis on results.

Chapter 06 : Conclusion and Future Works.

- New possibilities discovered.
- Problems encountered.
- Increasing the accuracy of detection and localization.
- Summary