

Fraud Transaction Detection: Project Report

Nature Inspired Computing

Nikita Zagainov, Dmitry Tetkin, Alisher Kamolov, Nikita Tsukanov

Innopolis University

April 2025

Application of nature-inspired algorithms to the problem of fraud transaction detection in banking systems.

- Fraud detection is a critical task in banking systems
- Most common approach is Machine Learning
- We propose to use nature-inspired algorithms to fine-tune ML models to get better results

Our project was inspired by the following project:

<https://github.com/pmacinec/transactions-fraud-detection> Our project's contribution is the following:

- Comparison with gradient boosting algorithms
- Application of NIC algorithms to the gradient boosting algorithms

Treatments	Response 1	Response 2
Treatment 1	0.0003262	0.562
Treatment 2	0.0015681	0.910
Treatment 3	0.0009271	0.296

Table: Table caption

Conclusion

...

The End