Earthquake Prediction Using Machine Learning Techniques

Ala-Too International University

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Research Problem

- Earthquakes are hard to predict and can be very dangerous.
- Existing methods have limitations and are not always accurate.
- My research questions are:
  - How can machine learning improve earthquake prediction in Central Asia?
  - Which machine learning techniques work best?
  - How reliable is historical earthquake data for predicting future events?

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Objectives

- Create a machine learning model to predict earthquakes.
- Check how good past earthquake data is for predictions.
- Compare my model to other prediction methods.

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Literature Review

- Current methods are not precise enough.
- Machine learning can find patterns in earthquake data.
- New techniques like deep learning (CNNs and LSTMs) are promising.
- Data from networks like seismic sensors are useful.

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Methodology

- Data collection.
- Data pre-processing to clean and organize data.
- Feature selection to find important data points.
- Model training using machine learning algorithms.
- Model evaluation using performance metrics.

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Results

- Model performance: MSE, MAE, R2 Score.

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Conclusion

- Summary of research goals and main findings.
- Future work suggestions:
  - Enhance prediction models.
  - Use more diverse data sources with more columns.
  - Explore advanced machine learning techniques.