

The Australian National University
2600 ACT | Canberra | Australia



Australian
National
University

School of Computing

College of Engineering, Computing
and Cybernetics (CECC)

Unleashing the power of Machine Learning in Geodynamics

— 12 pt Honours project (S2 2023)

A thesis submitted for the degree
Bachelor of Advanced Computing (Honours)

By:
Xuzeng He

Supervisors:
Dr. Rhys P. Hawkins
Dr. Alberto F. Martin Huertas
Dr. Siavash Ghelichkhan

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Abstract

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Introduction

Background

Related Work

Geoid prediction

4.1 Dataset of Geoid prediction

4.2 Fully connected Neural Networks (FNN) for Prediction

Mantle Convection Simulation

- 5.1 Dataset of mantle convection simulation
- 5.2 Compression of temperature fields
- 5.3 Fully Connected Neural Network (FNN) for Prediction
- 5.4 Long short-term memory (LSTM) for Prediction

Concluding Remarks

6.1 Conclusion

6.2 Future Work

Bibliography
