

# Crypto Analytics Hub

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## Introduction

- Cryptocurrencies have seen an exponential rise in value and popularity over the past few years
- Investors without the proper technical background or resources are left at a disadvantage
- Crypto Analytics Hub is a proof-of-concept for a model-based cryptocurrency analytics/learning platform
- Crypto Analytics Hub is not a service for trading advice, but instead a gateway for users to explore advancements in market analytics

## Knowledge Base

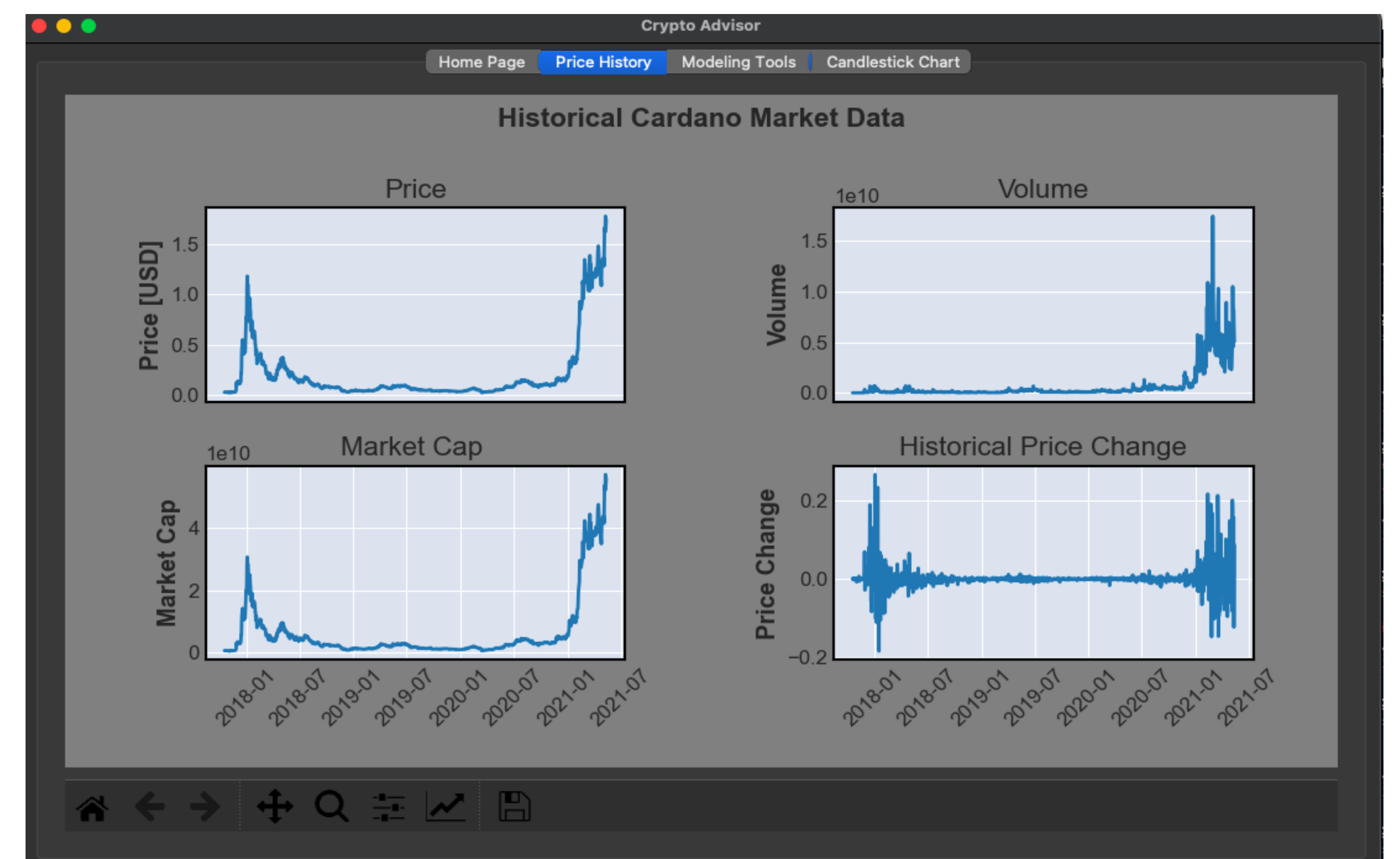
- We supplement our knowledge base through PyCoinGecko, a wrapper for the CoinGecko API
- Price data is updated each day for all active cryptocurrencies

## Methodology

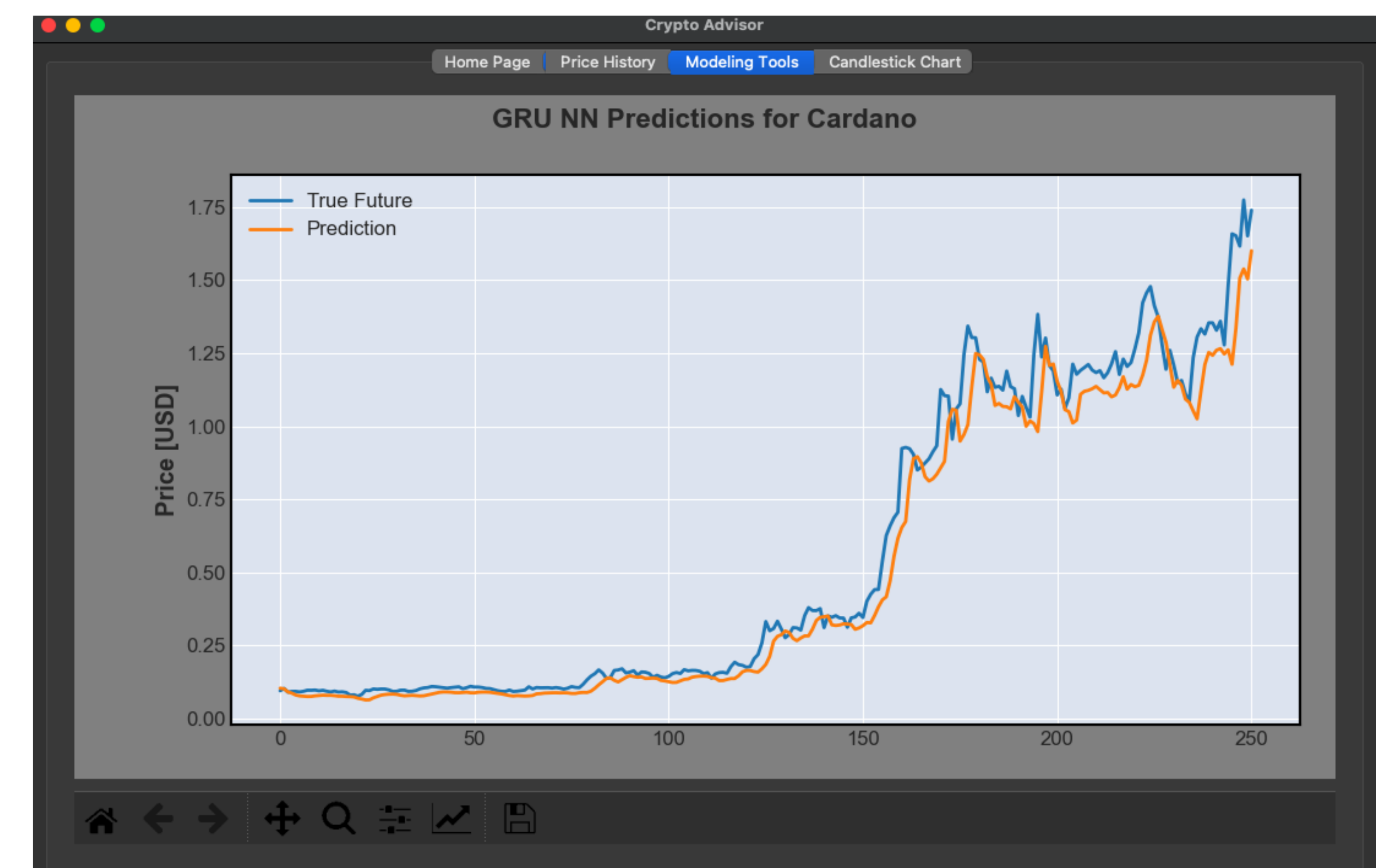
- The application uses OOP in Python to store, process, and analyze the price data for each query
- A CustomModel class was created to train and deploy a GRU Neural Network for price predictions
- PyQt5 was utilized to create a GUI that enables users to generate insights on command
- The UI displays visualizations of the model performance, price movement, daily change, etc.

## Typical Analysis Example

### Price History Tab (Cardano):



### GRU NN Results: (Last 250 days)



## Further Work

- Connect Users with a set of prediction methods such as Stochastic Models, ARIMA Forecasting, etc.
- Allow users to compare results between different models and overlay results
- Connect users with related news articles, tweets, and discord servers
- Aim to increase the involvement, accessibility, and advancement of machine learning based market analytics