

# **BITFORECAST DOCUMENTATION**

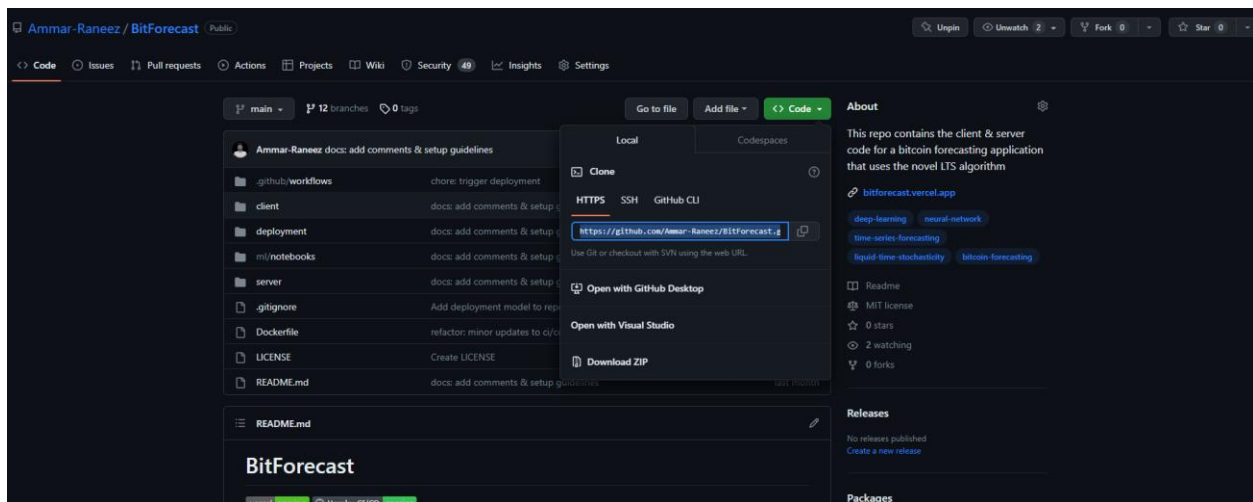
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## Application setup

The GitHub repository is present at <http://bit.ly/3HXDtQu> with clear and detailed instructions within each **README.md** file.

- Step 01: Clone the link <https://github.com/Ammar-Raneez/BitForecast.git>
- Step 02: Create a **.env** file with the keys required as detailed in the **.env.example** file.
- Step 03: Navigate to the client directory and run **yarn** to install the dependencies.
- Step 04: Run **yarn start** to run the client application.
- Step 05: Navigate to **localhost:3000** to browse the application.



Each individual directory has its own respective setup detailed within the **README.md** file.

The application has been deployed via a CI/CD pipeline that uses Vercel and Heroku to host the React client and the Python server respectively.

It can be located at <https://bitforecast.vercel.app/>

# Home page

BitForecast

HomeCryptocurrenciesNewsMetricsLogout

Global Crypto Stats

Total Cryptocurrencies  
24,222

Total Market Cap:  
\$1.2T

Total Cryptocurrencies  
24,222

Total Exchanges  
179

Total 24h Volume  
\$63.7B

Total Markets  
38.6K

Top 10 Cryptos In The World

Show more

1. Bitcoin

Price: 28.2K

Market Cap: 542B

Daily Change: 0.26%

2. Ethereum

Price: 1.9K

Market Cap: 227.2B

Daily Change: -0.54%

3. Tether USD

Price: 1

Market Cap: 65.6B

Daily Change: -0.06%

4. BNB

Price: 313.4

Market Cap: 44.8B

Daily Change: 0.07%

5. USDC

Price: 1

Market Cap: 44B

Daily Change: 0.24%

6. XRP

Price: 0.5

Market Cap: 25.6B

Daily Change: -0.87%

7. Cardano

Price: 0.4

Market Cap: 13.7B

Daily Change: 0.86%

8. Dogecoin

Price: 0.1

Market Cap: 11.3B

Daily Change: -1.60%

9. Polygon

Price: 1.1

Market Cap: 10.2B

Daily Change: -0.17%

10. OKB

Price: 41.6

Market Cap: 10B

Daily Change: -0.07%

Latest Crypto News

Show more

Inside the international sting operation to catch North Korean crypto hackers

As a team of South Korean spies and American private investigators quietly gathered at the South Korean...

CNN25 minutes ago

Cryptocurrency Price Today: Popular Coins Bitcoin, Ethereum Show Losses As Filecoin Becomes Top Gainer

As per WazirX, Ethereum price in India stood at Rs 1.62 lakhs. DOGE registered a 24-hour loss of 2.0...

news.abplive11 hours ago

How and why are Indian investors easy target for crypto fraudsters?

Several Indian investors trading on cryptocurrency platforms have been losing crores of rupees and l...

indiatimes2 hours ago

Today's cryptocurrency prices: Check Bitcoin, Ethereum, Dogecoin, Tether rates

A stablecoin is a cryptocurrency with extremely low volatility. Its value is linked to a physical as...

newsbytesapp.coma day ago

Crypto ETFs Have Bounced Back. But Don't Get Too Excited

Cryptocurrency ETFs are the top-performing class in the ETF universe. That likely speaks more to how...

Mint6 hours ago

Binance's US arm struggles to find bank to take its customers' cash: Report

The US arm of cryptocurrency exchange firm Binance has struggled to find a bank for its customers' c...

Channel NewsAsia Singapore2 hours ago

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HomeCryptocurrenciesNews

The home page presents users with a brief overview of the current global cryptocurrency market and shows the top coins and some hot news.

Clicking on a particular news article would navigate the user to the main article.

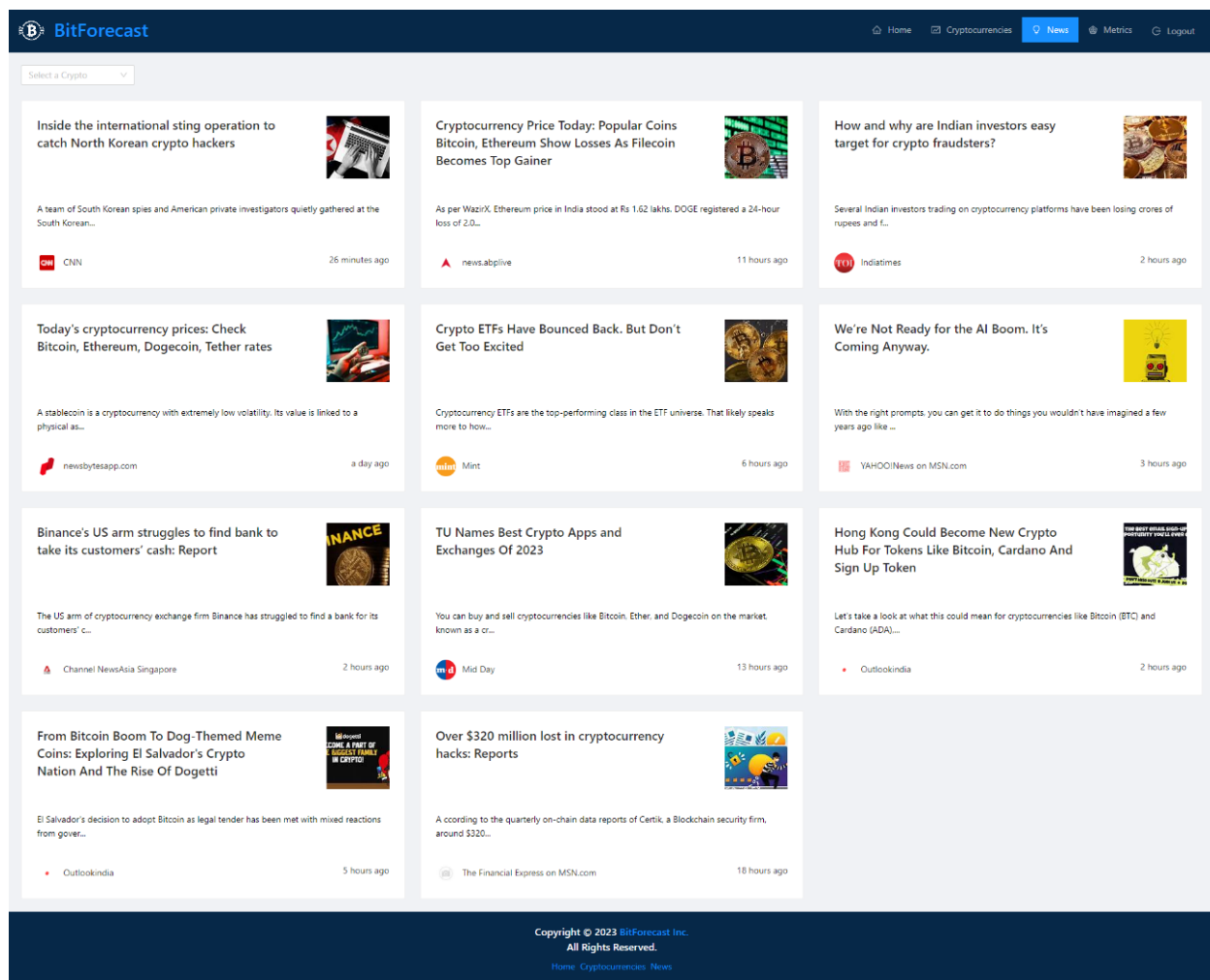
BitForecast Documentation

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Clicking on a particular coin will navigate the user to the specific coin's page. Bitcoin is highlighted apart from the rest as, at this point in time, only it is capable of being forecasted. Therefore, the author highlighted it to indicate this clearly.

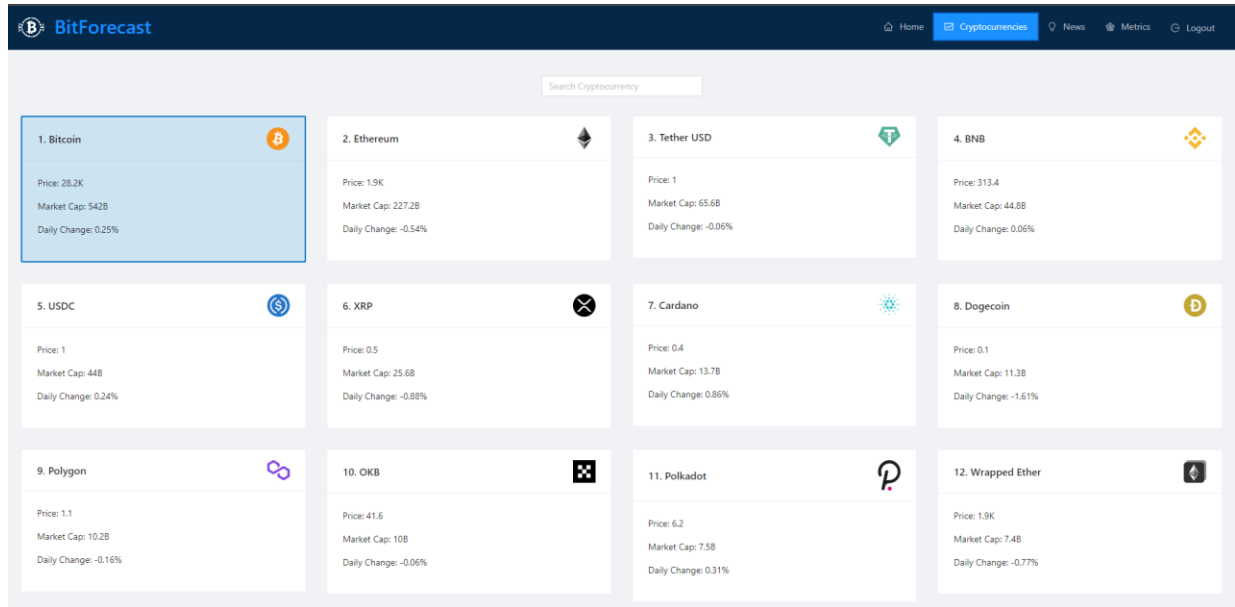
Clicking on "show more" would navigate the user to the cryptocurrencies and news pages respectively.

## News page



The news page presents articles regarding cryptocurrencies that can be filtered to display only a specific coin's articles. This page is a suitable complement to the application, as a hot news could be the catalyst on whether to sell/buy held assets.

## Cryptocurrencies page

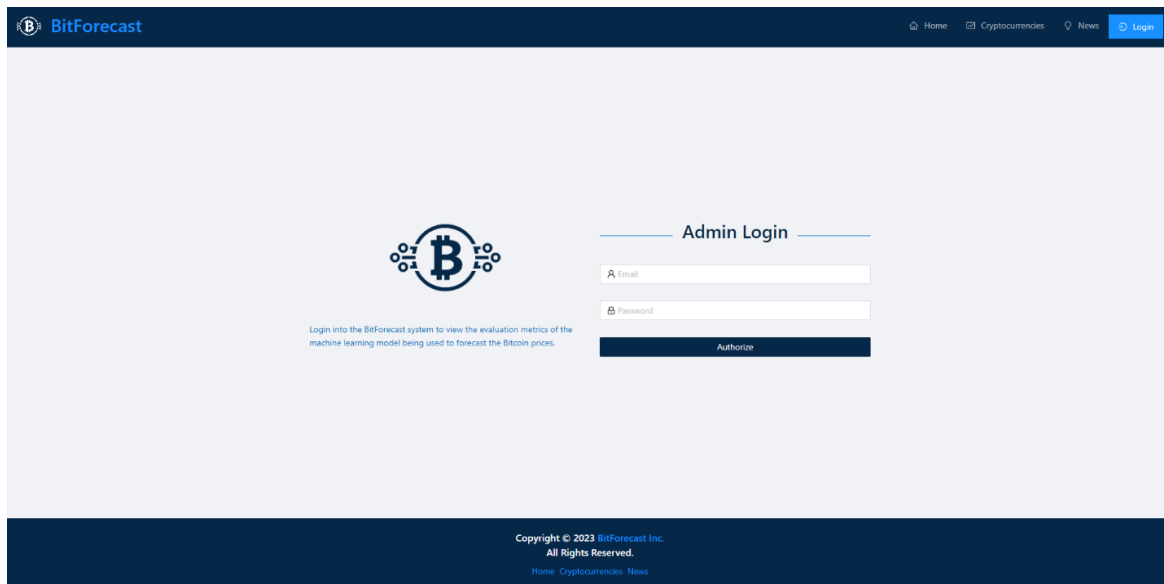


The screenshot shows the 'Cryptocurrencies' page of the BitForecast website. It features a dark blue header with the BitForecast logo and navigation links: Home, Cryptocurrencies (active), News, Metrics, and Logout. Below the header is a search bar labeled 'Search Cryptocurrency'. The main content area displays a grid of 12 cryptocurrency cards, each showing the coin's rank, name, icon, price, market cap, and daily change.

Rank	Coin Name	Price	Market Cap	Daily Change
1.	Bitcoin	28.2K	542B	0.25%
2.	Ethereum	1.9K	227.2B	-0.54%
3.	Tether USD	1	65.6B	-0.06%
4.	BNB	313.4	44.8B	0.06%
5.	USDC	1	44B	0.24%
6.	XRP	0.5	25.6B	-0.88%
7.	Cardano	0.4	13.7B	0.86%
8.	Dogecoin	0.1	11.3B	-1.61%
9.	Polygon	1.1	10.2B	-0.16%
10.	OKB	41.6	10B	-0.06%
11.	Polkadot	6.2	7.5B	0.31%
12.	Wrapped Ether	1.9K	7.4B	-0.77%

The top 100 coins are presented in this page, where individual coins can be searched for.


## Admin login page



The screenshot shows the 'Admin Login' page of the BitForecast website. It features a dark blue header with the BitForecast logo and navigation links: Home, Cryptocurrencies, News, and Login (active). The main content area has a light gray background. On the left, there is a Bitcoin logo and a message: 'Login into the BitForecast system to view the evaluation metrics of the machine learning model being used to forecast the Bitcoin prices.' On the right, there is a form titled 'Admin Login' with fields for 'Email' and 'Password', and a 'Authorize' button. At the bottom, there is a footer with copyright information: 'Copyright © 2023 BitForecast Inc. All Rights Reserved.' and links to 'Home', 'Cryptocurrencies', and 'News'.

Admins could login through the above portal to obtain some information regarding the current models in use.

## Admin metrics page

<div><div> BitForecast</div><div><a href="#">Home</a> <a href="#">Cryptocurrencies</a> <a href="#">News</a> <a href="#">Metrics</a> <a href="#">Logout</a></div></div>					
Univariate Model Metrics					
Model	MAE	MSE	MAPE	MASE	RMSE
Ensemble architecture	950.301	2013928.4	2.557%	0.998	1419.129
Naive model	951.948	2021966	2.565%	1	1421.958
Multivariate Model Metrics					
Model	MAE	MSE	MAPE	MASE	RMSE
Ensemble architecture	932.309	1826788.8	2.668%	1.086	1351.588
Naive model	858.742	1631648	2.418%	0.999	1277.36
<div>Copyright © 2023 BitForecast Inc. All Rights Reserved. <a href="#">Home</a> <a href="#">Cryptocurrencies</a> <a href="#">News</a></div>					

The above page is available to logged in admins; it displays the evaluation results of the models currently in use.

# Cryptocurrency page



Each individual coin has the above details page which shows in-depth details of its respective statistics and other information. Additionally, a forecast option is displayed for the Bitcoin details page, where users could attempt the forecast.



# Bitcoin forecasted page



Forecasting Bitcoin produces 3 distinct lines that are combined with the current graph. The upper and lower bounds, and a point forecast. These lines are rendered to demonstrate a range of prices than a single point price that is unlikely to be accurate; therefore, producing a range is more realistic and plausible.