FinBot User Manual

Contents

Introduction

FinBot is an intelligent financial assistant designed to help you manage your investment portfolio, analyse stocks, and learn about financial concepts. With an intuitive chat interface and powerful analysis features, FinBot makes financial management accessible for users of all experience levels.

Key Features

- **Interactive Chat**: Ask financial questions and get customized answers based on your financial literacy level

- **Portfolio Management**: Track your investments, buy and sell stocks, and monitor performance

- **Stock Analysis**: Get current prices, visualize price charts, and generate predictive models

- **Educational Content**: Learn about financial concepts with explanations tailored to your knowledge level

Getting Started

System Requirements

- Compatible with Windows, macOS, and Linux

- Python 3.7 or higher

- Internet connection for stock data retrieval

Installation

1. Ensure you have Python installed on your system

2. Install the required libraries:

pip install pandas numpy matplotlib scikit-learn nltk tensorflow yfinance PySimpleGUI keras shap

*please note PySimpleGUI new versions of PySimpleGUI requires payment. In my iteration I forked an older free version from https://github.com/spyoungtech/FreeSimpleGUI

3. Download and extract the FinBot application files

4. Run the application by executing main.py:

python main.py

First Launch

When you first launch FinBot, you'll be prompted to enter your name. The application will then open with a welcome message and guide you through the interface.

Chat Interface

The chat interface is the primary way to interact with FinBot. You can ask questions, request information, and issue commands through natural language.

Basic Interaction

- Type your message in the input field at the bottom of the chat window

- Press "Send" or hit Enter to submit your message

- FinBot will respond in the chat window above

Financial Literacy Levels

FinBot provides responses based on your selected financial literacy level:

- **Beginner**: Simplified explanations with minimal financial jargon

- **Advanced**: Detailed explanations with technical financial terminology

You can change your financial literacy level using the dropdown menu in the sidebar.

Rating Responses

After each FinBot response, you can provide feedback:

- 👍 **Helpful**: Indicates the response was useful

- 👎 **Not Helpful**: Indicates the response could be improved

    o You'll be prompted to provide specific feedback on what could have been better

Portfolio Management

The Portfolio Management section allows you to track and manage your investments.

Wallet Management

- **Current Balance**: Displays your available funds

- **Add Funds**: Click to add money to your wallet

    o Enter the amount in the input field

    o Click "Update" to confirm

Stock Holdings

- View your current stock holdings in a table showing:

    o Ticker symbol

    o Number of shares

    o Average purchase price

    o Current price

    o Current value

    o Gain/Loss (amount and percentage)

Buying Stocks

1. Enter the stock symbol (e.g., AAPL for Apple)

2. Enter the dollar amount you wish to invest

3. Click "Buy"

4. A confirmation message will appear showing details of your purchase

Selling Stocks

1. Select the stock from the dropdown menu

2. Choose one of the following options:

    o **Sell Shares**: Enter the specific number of shares to sell

    o **Sell Amount**: Enter the dollar value of shares to sell

    o **Sell All**: Check this box to sell your entire position

3. Click "Sell"

4. A confirmation message will appear showing details of your sale and any profit/loss

Stock Analysis

The Stock Analysis section offers tools to evaluate stocks and predict future performance.

Price Information

1. Enter the stock symbol (e.g., TSLA for Tesla)

2. Click "Get Price" to see the current price and a price chart

3. Click "Predict" to generate price predictions using AI models

Analysis Results

The analysis results window will display:

- Current price information

- Price charts showing historical performance

- Prediction results (when using the Predict feature)

Prediction Models

FinBot offers two AI models for stock price prediction:

- **LSTM** (Long Short-Term Memory): Good for identifying long-term patterns

- **CNN** (Convolutional Neural Network): Good for identifying visual patterns in price data

- **Both**: Uses both models for comparison

When running a prediction, FinBot will:

1. Open a new window showing the prediction process

2. Display charts comparing actual and predicted prices

3. Show SHAP explanation plots to help understand what factors influence the prediction

4. Provide next-day price predictions from each model

Settings

The Settings section allows you to customize FinBot to your preferences.

User Information

- Update your name by entering it in the field and clicking "Save"

Prediction Model Settings

- Select your default prediction model:

    o LSTM

    o CNN (default)

    o Both

Command References

You can interact with FinBot through the chat interface using natural language commands. Here are some examples:

Wallet Commands

- "Check my wallet balance"

- "How much money do I have?"

- "Add money to my wallet"

- "Add $500 to my wallet"

Portfolio Commands

- "Show my portfolio"

- "What stocks do I own?"

- "Buy stock AAPL with $1000"

- "Should I invest in TSLA?"

Analysis Commands

- "What's the current price of AMZN?"

- "Predict stock price of MSFT"

- "Get investment advice for GOOGL"

General Commands

- "Help" - Display a list of available commands

- "Time" - Display the current time

- "Change my name to [new name]" - Update your username

Troubleshooting

Common Issues

Issue: Stock data not loading

- **Solution**: Check your internet connection and try again

- **Solution**: Verify the stock ticker symbol is correct

Issue: Prediction models running slowly

- **Solution**: Prediction models require significant processing power and may take several minutes

- **Solution**: Try using only one model (CNN or LSTM) instead of both

Issue: Unable to buy stocks

- **Solution**: Ensure you have sufficient funds in your wallet

- **Solution**: Verify the stock ticker symbol is correct

Issue: Chat responses not relevant

- **Solution**: Try rephrasing your question

- **Solution**: Adjust your financial literacy level if responses are too simple or too complex

Data Storage

FinBot stores your data in the following locations:

- Portfolio data: portfolio/user_portfolio.json

- Feedback data: feedback/finbot_feedback.json

- Poor ratings: feedback/poor_table.xlsx

Resetting Data

To reset your portfolio:

1. Close FinBot

2. Delete or rename the portfolio/user_portfolio.json file

3. Restart FinBot

Thank you for using FinBot! If you encounter any issues not covered in this guide, please contact support.