

LLM :

[illegible]

## Tools :

```
os.environ['SERPER_API_KEY'] = os.getenv('SERPER_API_KEY')

from crewai_tools import SerperDevTool
from crewai_tools import ScrapeWebsiteTool
from crewai_tools import CSVSearchTool

# FA tools
tool_serper = SerperDevTool()
tool_investing = ScrapeWebsiteTool(website_url='https://www.██████████████████████')
tool_binancenews = ScrapeWebsiteTool(website_url='https://www.██████████████████████')

# TA tools
tool_cmc = ScrapeWebsiteTool(website_url='https://██████████████████████/')
tool_csv = CSVSearchTool(csv='../data/bitcoin.csv',
    config=dict(
        llm=dict(
            provider="google", # or google, openai, anthropic, llama2, ...
            config=dict(
                model="gemini-1.5-flash",
                # temperature=0.5,
                # top_p=1,
                # stream=true,
            ),
        ),
    ),
    embedder=dict(
        provider="google", # or openai, ollama, ...
        config=dict(
            model="models/embedding-001",
            task_type="retrieval_document",
            # title="Embeddings",
        ),
    ),
)
)
```

# Tasks :

```
# Technical Analysis Task
ta_task = Task(
    description=(
        """Analyze the Bitcoin price movements within {L_date} and {Date} using
        technical indicators, in bitcoin.csv csv file you have past 10 days bitcoin price data like
        btc_price = Bitcoin price, and use serper tool to search on web. Today is {Date}. Focus on identifying
        key trends and provide a forecast for whether the market will be bullish
        or bearish over the next 24 hours."""
    ),
    expected_output='A detailed report with technical analysis, including charts and a
    bullish/bearish forecast for the next 24 hours.',
    tools=[tool_serper, tool_cmc, tool_csv],
    agent=technical_analysis_agent)

# Fundamental Analysis Task
fa_task = Task(
    description=(
        """Analyze Bitcoin price movements using fundamental economic factors and
        news from the last 24 hours. Today is {Date}. Focus on identifying key events and
        factors that could influence the market direction. Provide a forecast
        for whether the market will be bullish or bearish over the next 24 hours."""
    ),
    expected_output='A comprehensive report on fundamental analysis, including key economic
    indicators and news summaries with a bullish/bearish forecast for the next 24 hours.',
    tools=[tool_serper, tool_binancenews],
    agent=fundamental_analysis_agent)

# Research Task
research_task = Task(
    description=(
        """Synthesize the data from the technical and fundamental analysis
        reports to provide an overall market forecast for Bitcoin over the
        next 24 hours. Today is {Date}. Focus on integrating insights from both analyses and
        clearly articulating a well-rounded trading recommendation."""
    ),
    expected_output='An integrated report combining technical and fundamental analysis with a clear
    bullish/bearish forecast and trading recommendation for the next 24 hours.',
    agent=researcher_agent,
    context=[ta_task, fa_task],
    output_file='{Date}.md')
```

# Agents :

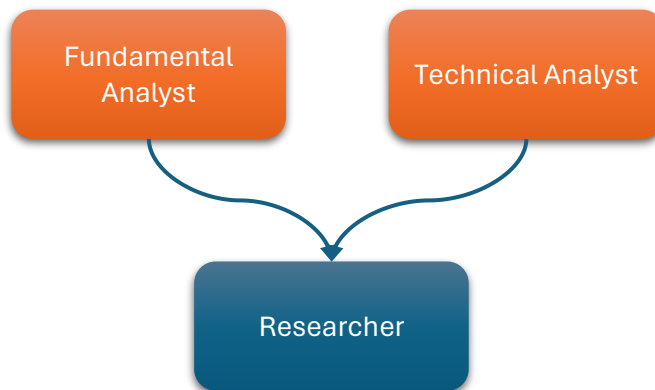
```
# Creating a TA agent with memory and verbose mode

technical_analysis_agent = Agent(
    role="Technical Analyst",
    goal='Analyze Bitcoin price movements using technical indicators and chart patterns within {L_date}
and {Date}. Today is {Date}',
    memory=True,
    backstory=(
        """With a keen eye for market trends and patterns, you excel in
analyzing price movements and technical indicators to provide
insights on potential future price actions. Provide the 1day market will be bullish or Bearish
based on data to day traders."""
    ),
    tools=[tool_cmc, tool_serper, tool_csv],
    llm=llm,
    allow_delegation=True,
    max_iter=10
)

# creating a FA agent
fundamental_analysis_agent = Agent(
    role="Fundamental Analyst",
    goal='Analyze Bitcoin price using fundamental economic factors and last 24 hours news. Today is
{Date}',
    memory=True,
    backstory=(
        """With a deep understanding of market forces and economic indicators,
you evaluate the intrinsic value of assets, considering broader
economic conditions and industry trends. Provide the 1day market will be bullish or Bearish based
on data to day traders"""
    ),
    tools=[tool_serper, tool_binancenews],
    llm=llm,
    allow_delegation=True,
    max_iter=10
)

# creating a Researcher agent
researcher_agent = Agent(
    role="Senior Researcher",
    goal='Synthesize technical and fundamental analysis data to make informed trading decisions to day
trading. Today is {Date}',
    verbose=True,
    memory=True,
    backstory=(
        """Provide the 1day market will be bullish or Bearish based on data to day traders. Driven by
curiosity and a comprehensive understanding of both technical and
fundamental analysis, you integrate various insights to provide well-rounded
trading recommendations."""
    ),
    llm=llm
)
```

Crew :



```
crew = Crew(  
    agents=[technical_analysis_agent, fundamental_analysis_agent, researcher_agent],  
    tasks=[ta_task, fa_task, research_task],  
    process=Process.hierarchical,  
    manager_llm=llm,  
    embedder={  
        "provider": "google",  
        "config":{  
            "model": 'models/embedding-001',  
            "task_type": "retrieval_document",  
            "title": "Embeddings for Embedchain"}}})
```

# Generated output file :

## ## Bitcoin Market Forecast: 2024-05-31

This report synthesizes the technical and fundamental analysis to provide a comprehensive market forecast for Bitcoin over the next 24 hours.

### \*\*Technical Analysis:\*\*

- \* **Bullish Momentum:** The RSI above 50 and a positive MACD signal bullish momentum. This suggests that buyers are currently in control, and the price could continue to rise.
- \* **Potential Volatility:** The wide Bollinger Bands and the price trading near the upper band indicate high volatility. This means we could see significant price swings in either direction, making it crucial to manage risk.
- \* **Potential Trend Shift:** The MACD nearing a crossover is a potential warning sign. If the MACD crosses below the signal line, it could indicate a shift in momentum towards a bearish trend.

### \*\*Fundamental Analysis:\*\*

- \* **Institutional Adoption:** Continued institutional adoption of Bitcoin is a positive factor, driving demand and potentially supporting price growth.
- \* **Market Sentiment:** The cautiously bullish market sentiment suggests that investors are optimistic about Bitcoin's future, but some uncertainty remains.
- \* **Potential Supply Increases:** The possibility of increased supply, whether through new mining or unlocking of previously held coins, could put downward pressure on prices.

### \*\*Integrated Analysis:\*\*

The technical indicators suggest a bullish bias with potential for volatility. The fundamental factors present a mixed picture, with both positive and negative influences. Overall, the market seems poised for a potential upward move, but the risks of a sudden shift in momentum are significant.

### \*\*Forecast:\*\*

Based on the combined technical and fundamental analysis, the market is expected to be **cautiously bullish** over the next 24 hours. The bullish momentum indicated by the RSI and MACD suggests a potential upward trajectory. However, the high volatility and the potential for a trend shift, coupled with the mixed fundamental factors, create a cautious outlook.

### \*\*Trading Recommendation:\*\*

- \* **Buy:** If you're looking to enter a long position, consider doing so with a tight stop-loss order to manage risk. Target entry points around support levels or potential pullbacks within the current upward trend.
- \* **Sell:** If you're already holding a long position, consider taking profits at resistance levels or if the MACD crosses below the signal line.
- \* **Short:** Avoid shorting for now, as the current trend is bullish. However, be prepared to short if the MACD crosses below the signal line and the price breaks below key support levels.

### \*\*Risk Management:\*\*

- \* **Stop-loss orders:** Use stop-loss orders to protect your profits and limit your potential losses.
- \* **Position sizing:** Don't over-leverage your positions. Start with a small position size and adjust as needed.

**Disclaimer:** This report is for informational purposes only and should not be considered investment advice.