



# Unlocking Investment Opportunities through Instagram Data

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An Innovative Approach to Financial Modeling

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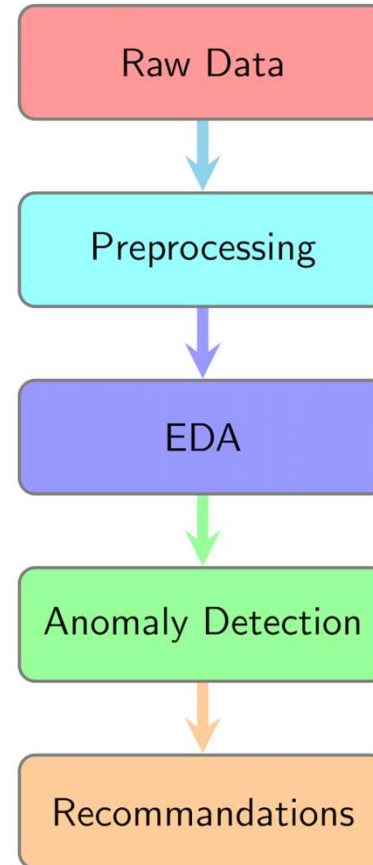


# Setup

- **Given:** Instagram data tracking popularity of brands.
- **Project Scope:** Leveraging data to derive actionable insights:  
“How is a brand perception related to its future success?”
- **Task:**
  - Identify significant deviations in trends
  - Isolate possible causes
  - Highlight noteworthy brands
- **Objective:** Providing UBS investors an edge.

# Pipeline

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# Data Preprocessing

- **Data Exploration and Cleaning:**

- Removed and interpolate missing values
- Dropped categorical features

- **Feature Engineering:**

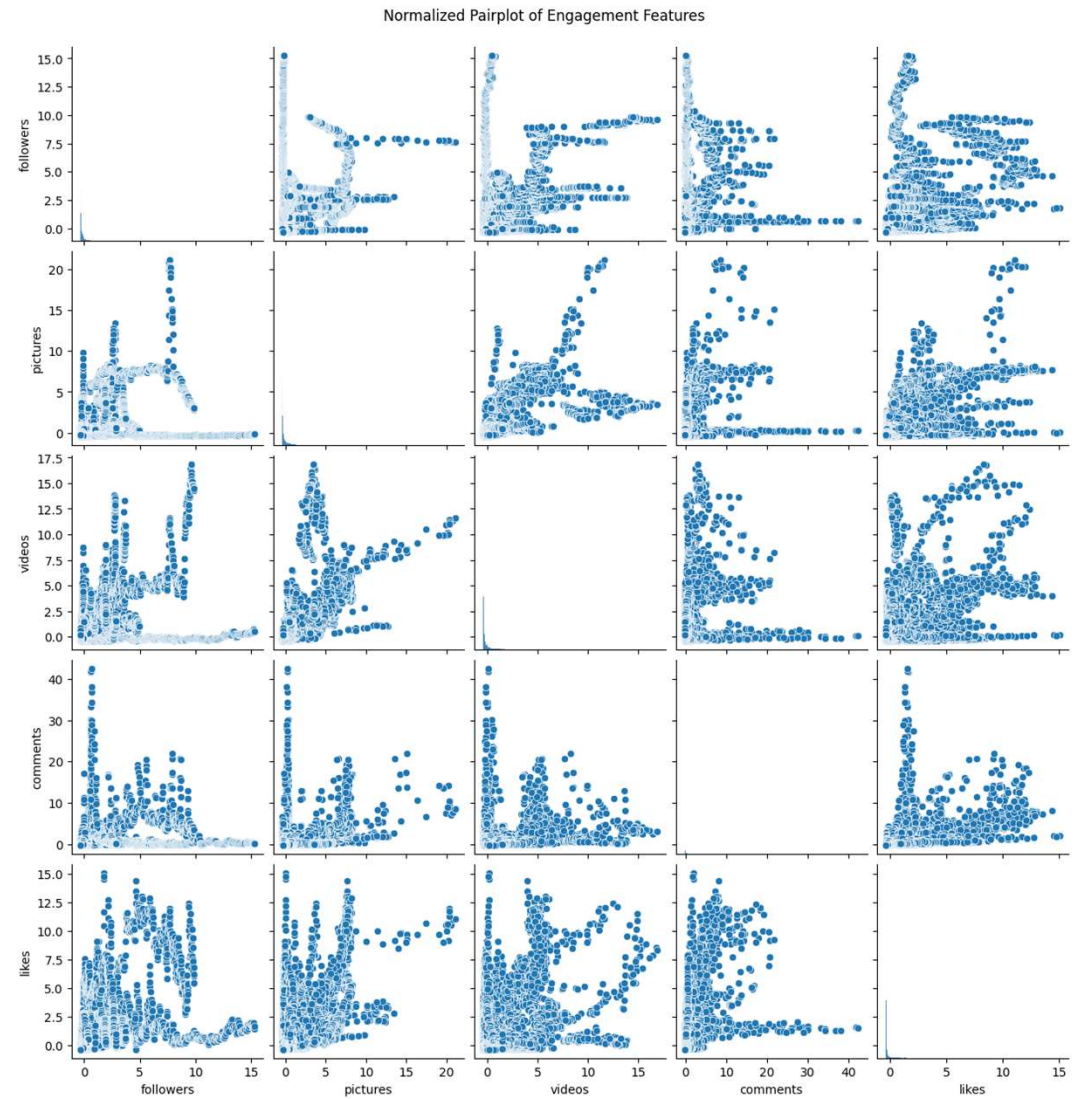
- Enhanced data set with new features (derived from Followers, Pictures Videos, Comments, Likes)
  - likes\_per\_content,
  - comments\_per\_likes,
  - likes\_per\_content\_weekly\_change,
  - followers\_weekly\_change

- **Integration of Financial Data: Yahoo API:**

- Closing\_price\_weekly\_change

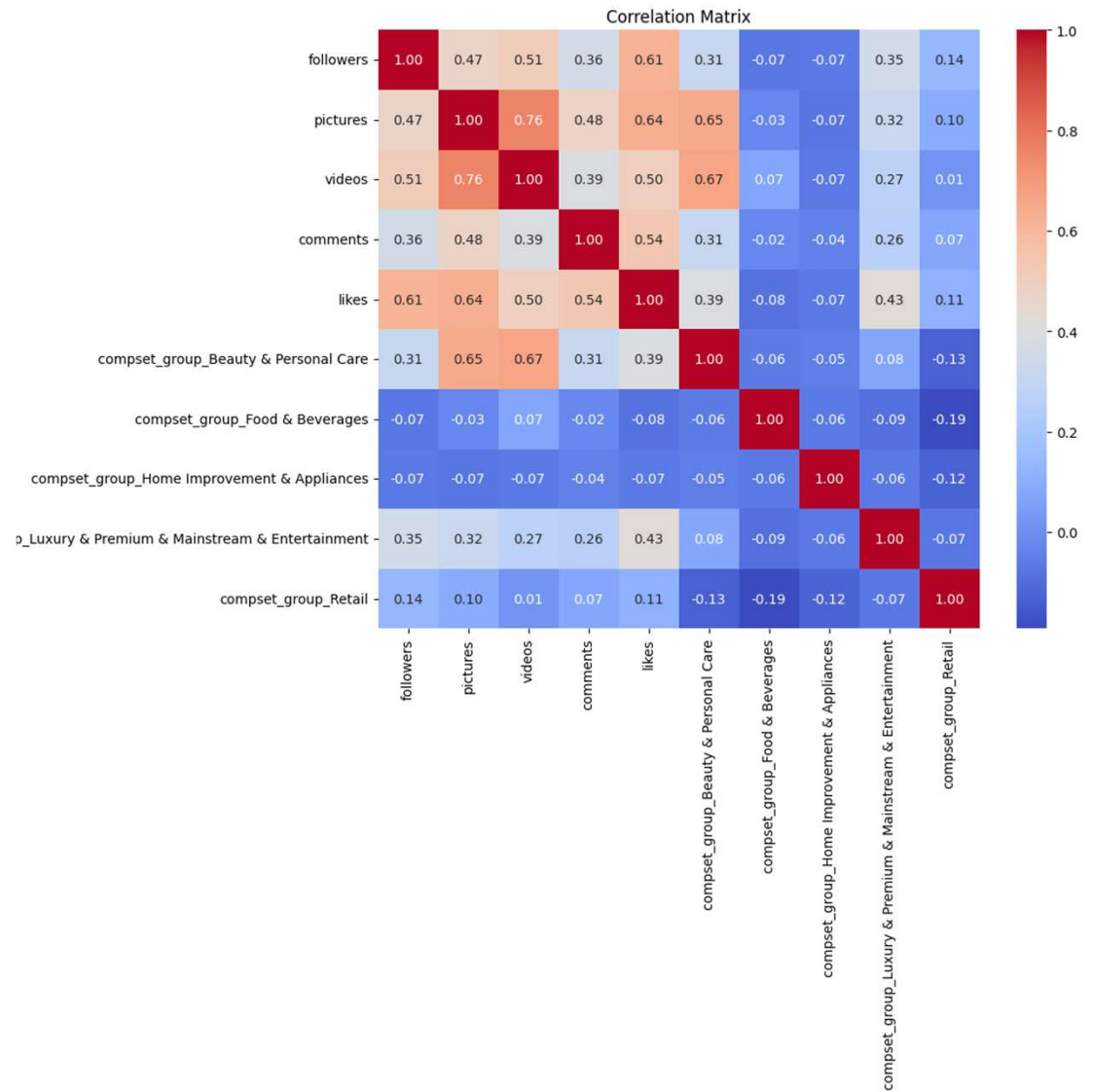
# Exploratory Data Analysis

- Engagement metrics pair-plot



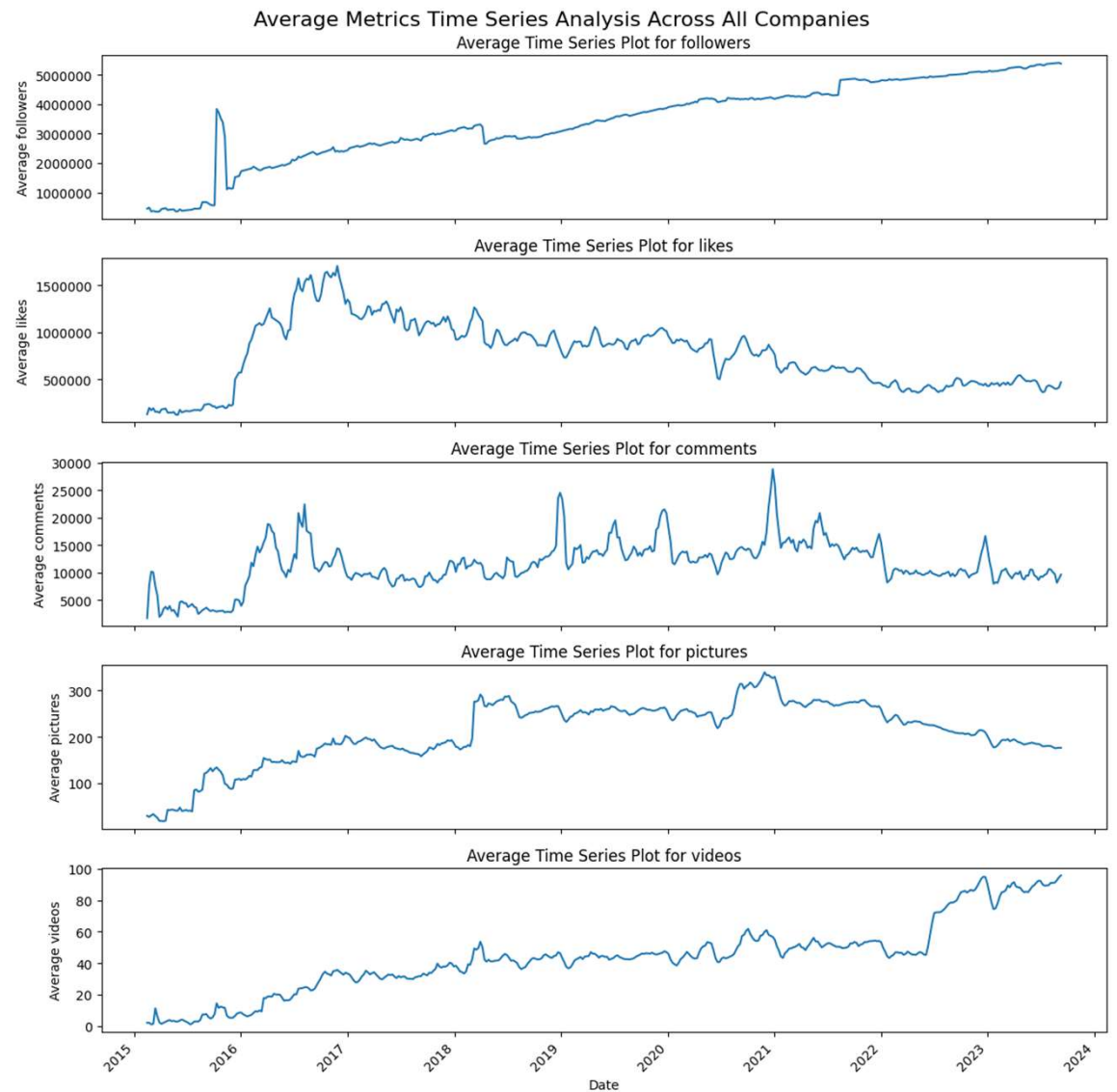
# Exploratory Data Analysis

## Correlations



# Exploratory Data Analysis

Time Series avg





# Anomaly Detection

- Two methods implemented
  - Autoencoder
  - Iso Forest
- Statistical Methods implemented to find key features on Anomaly results.



# Gained Insights and Strategy I: Sell

- The weekly variation of “comments per like”: key variable
- The weekly variation of “followers” too, as expected
- Sell signal based on those events: 61% accuracy, despite general market upwards trajectory

# Counterpart to the Selling Strategy

- Good Selling Strategy already provides a lot of value
- How do we select stocks that carry little risk, in order to run the selling strategy? → Stable and established stocks for long term investments
- Statistical Analysis to find stable stocks, consisting of historical stock market data and Instagram sentiment



# Conclusion and Future Directions

- **Summary:** Our innovative use of Instagram data presents new pathways for data-driven investment strategies at UBS.
- **Future Work:** Suggest further exploration into predictive analytics with expanded social media datasets and machine learning algorithms.
- Improve performance evaluation and feature engineering



**Questions?**

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**Thank you  
for your  
attention**

