

# Summer Data Challenge

**Diversified Investment Portfolio – with a Touch of Data Science**

**2024.08.01.**

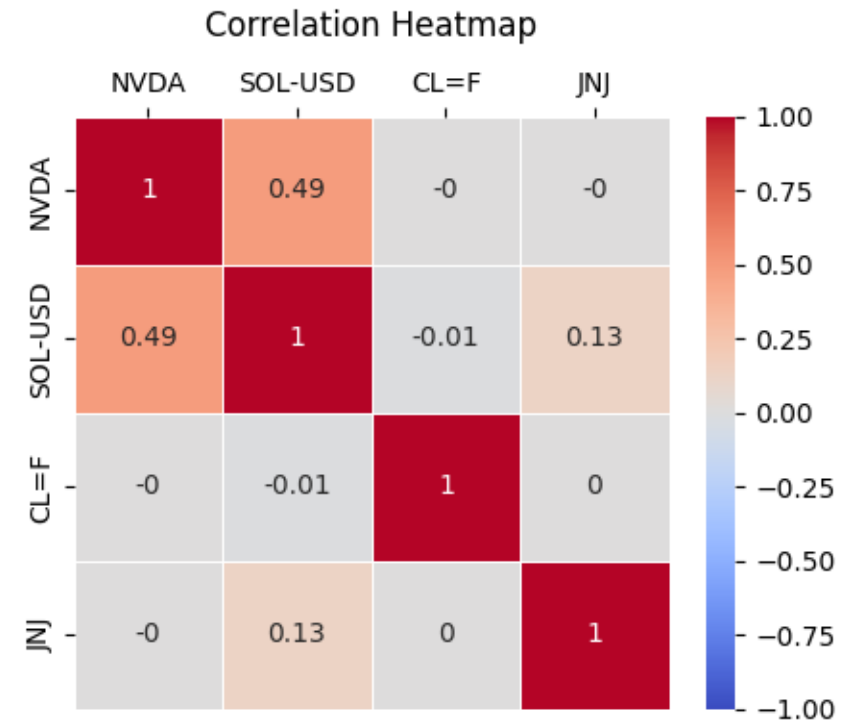
# Selections aspects

1. Find the 4 financial instruments that are most independent of each other! – **Correlation analysis!**
2. Is a weekly, monthly, quarterly or annual correlation appropriate?

	Advantage	Disadvantage	Number of Data Points
Weekly	<ul style="list-style-type: none"><li>• very detailed;</li><li>• quickly reacts to market events;</li></ul>	<ul style="list-style-type: none"><li>• greater volatility;</li><li>• short-term noise effect;</li></ul>	225
Monthly	<ul style="list-style-type: none"><li>• less volatility;</li><li>• good balance between details and trends;</li></ul>	<ul style="list-style-type: none"><li>• may contain short-term fluctuations;</li></ul>	52
Quarterly	<ul style="list-style-type: none"><li>• long-term trends;</li><li>• less volatility;</li></ul>	<ul style="list-style-type: none"><li>• fewer data points;</li><li>• market events may be smoothed out;</li></ul>	18
Yearly	<ul style="list-style-type: none"><li>• clear long-term trends;</li><li>• minimal short-term noise;</li></ul>	<ul style="list-style-type: none"><li>• very few data points;</li><li>• many important details are lost</li></ul>	5

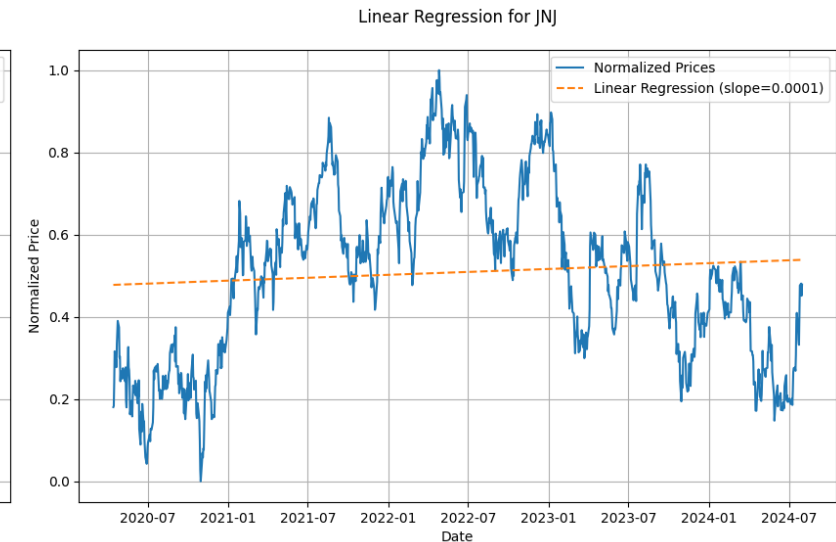
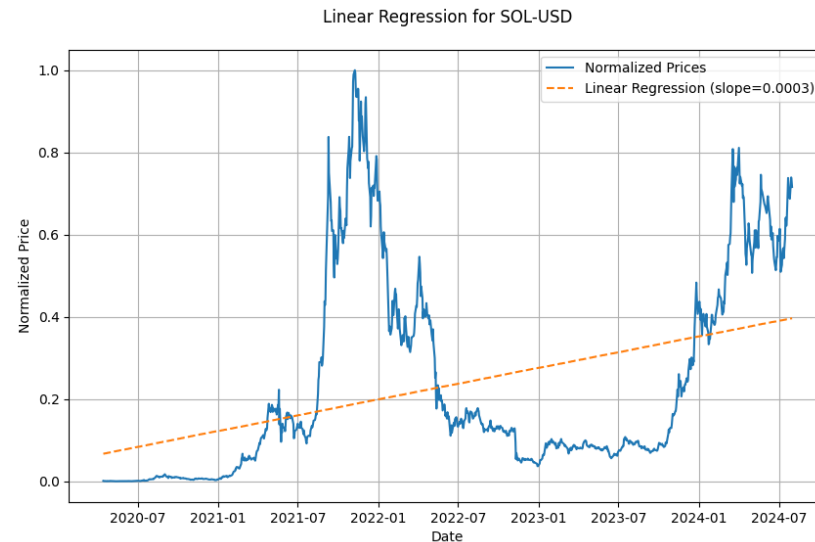
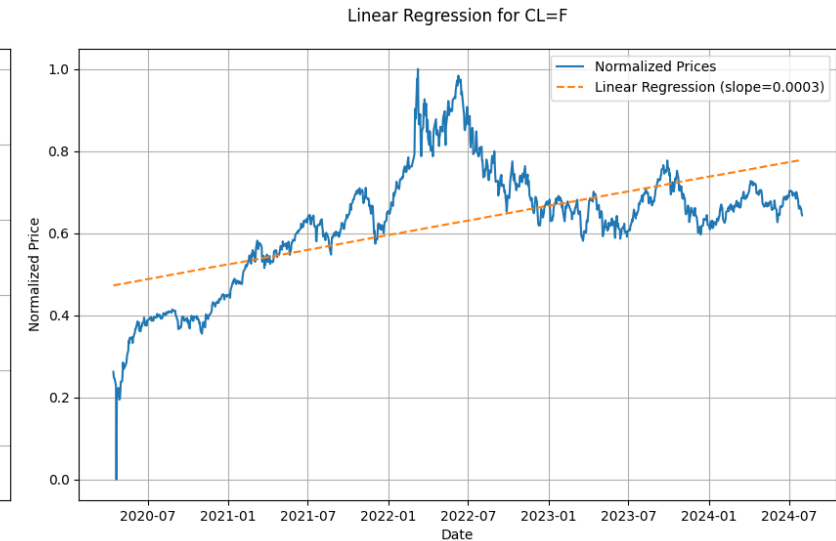
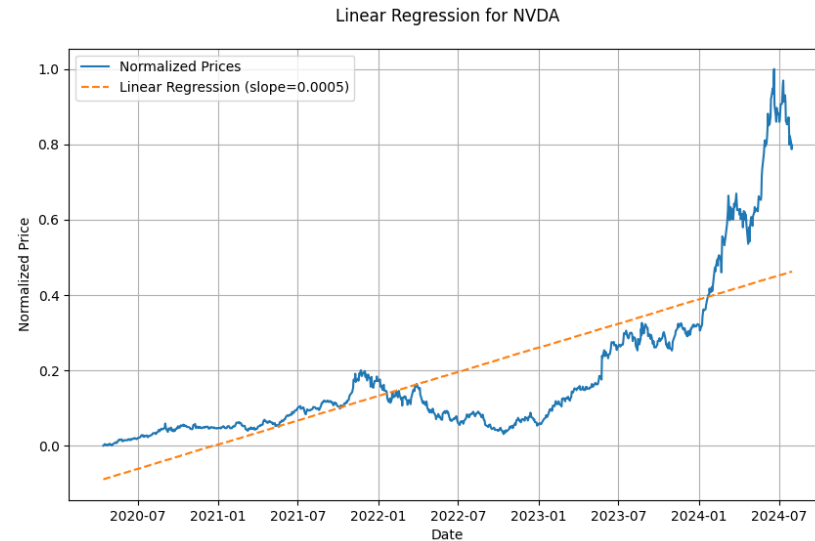
# Which four assets should we choose?

- NVIDIA Corporation (NVDA) – Technology
- Solana (SOL-USD) – Cryptocurrency
- Crude Oil (CL=F) – Future
- Johnson & Johnson (JNJ) – Healthcare



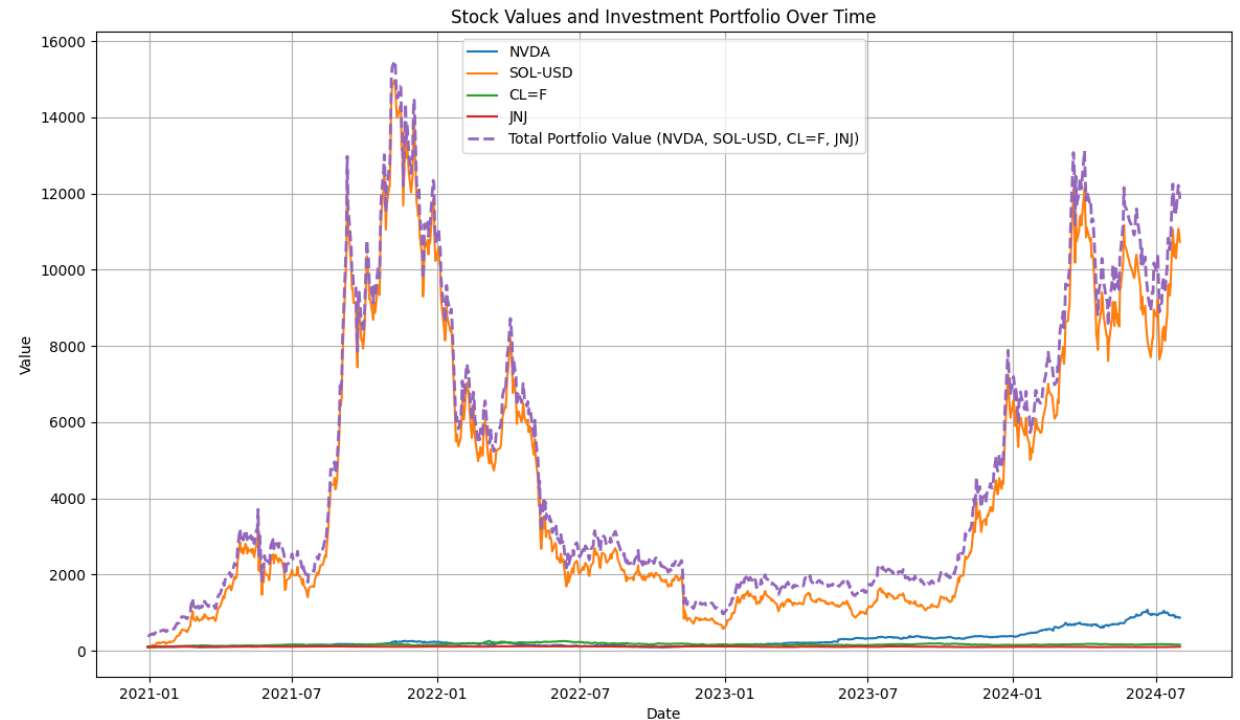
# Trend between 2020.04.10s and 2024.07.31s?

- All stocks show an increasing trend.
- Values are normalized to make growth comparable.



# How much would the investment be worth now?

- If we had invested \$100 in each on 2021.01.01.:
  - NVDA: \$869.11
  - SOL-USD: \$10,727.00
  - CL=F: \$156.33
  - JNJ: \$103.30
  - Total: \$11,855.74



# Summary

- Examined period: **2020.04.10. - 2024.07.31.**
- Selected financial instruments (based on monthly correlation analysis, considering trends):
  - **NVIDIA, SOL-USD, CL=F, JNJ**
- Investment on 2021.01.01. (\$100 per instrument) current value: **\$11,855.74**
- **Disclaimer!**

**This presentation is for informational purposes only. It cannot be considered as a financial advice. Make your investment decisions at your own risk and consult with a financial advisor or expert.**