BY CHRISTIAN MARTINEZ

Cash Forecasting in FP&A - How AI can help

Traditional

a. Define Objective and Forecast Horizon

- Short-Term (1-13 weeks): Focus on operational liquidity.
- Medium-Term (3-12 months): Supports working capital and treasury decisions.
- Long-Term (1-5 years): Strategic planning and funding decisions.

b. Gather Data

- Collect historical data, typically:
- Accounts Receivable (collections patterns)
- Accounts Payable (payment schedules)
- Payroll and other fixed costs
- Capital expenditures
- Debt repayments and interests
- Other operating inflows and outflows

c. Build Assumptions

- Payment terms, DSO (Days Sales Outstanding), DPO (Days Payables Outstanding)
- Seasonality impacts
- Revenue growth projections
- Operational expansion or contraction

d. Model the Forecast

- Direct Method: Cash receipts and disbursements.
- Indirect Method: Starts from net income, adjusts for non-cash items and changes in working capital.

AI- Driven

FP&A teams can augment their cash forecasting accuracy and speed by using AI and machine learning (ML) methods. Python provides excellent libraries and tools for this.

a. Benefits

- Automate data ingestion and preprocessing
- Detect hidden patterns and seasonality
- Predict cash drivers more accurately
- Update forecasts automatically as new data comes in

b. Key Python Libraries

- **pandas:** Data manipulation
- **numpy:** Numerical operations
- **scikit-learn:** Machine learning models
- **statsmodels:** Time series forecasting
- **prophet (Meta/Facebook):** Easy and interpretable time series forecasting
- **xgboost / lightgbm:** Advanced gradient boosting models for complex patterns

Key Workflow to start using AI for this

Prompt to Get Python Code → Add your Data into preferred Environment → Run the Code → Get your Forecast → Iterate and Improve Forecast!

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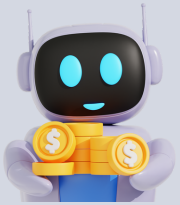

1. Prompt to Get Python Code

Specification

Define the specific task and objective

Workspace

Mention the platform used (Google Colab) and environment

Generate Python code to forecast cash flow using machine learning. I want to predict future cash balances and identify key cash flow drivers. I will be using Google Colab and my data is in an Excel file called Cash_Data_Final_v2. My data looks like:

add column names and 5 first rows of data here*

Use a machine learning model (XGBoost or Random Forest) to forecast cash_balance for the next 3 months. Include feature importance to understand which drivers (AR, AP, payroll, revenue) influence cash most. Plot actual vs predicted cash balances. Output the forecast as an Excel file called Cash_Forecast_AI

Describe the type of analysis or visualization needed

Analysis

Provide the data source and a sample of the data structure

Template

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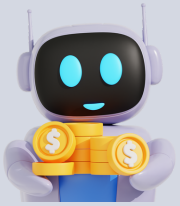
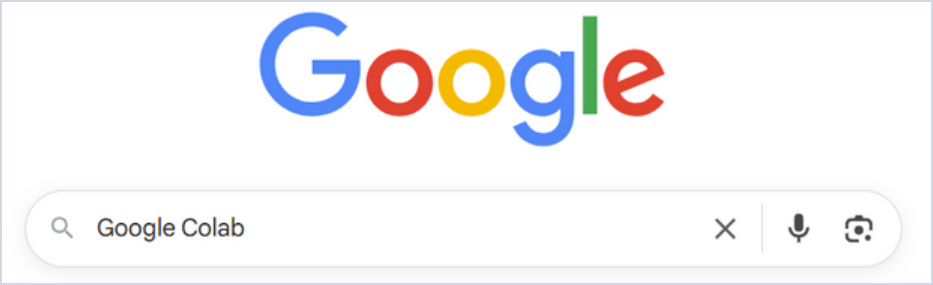


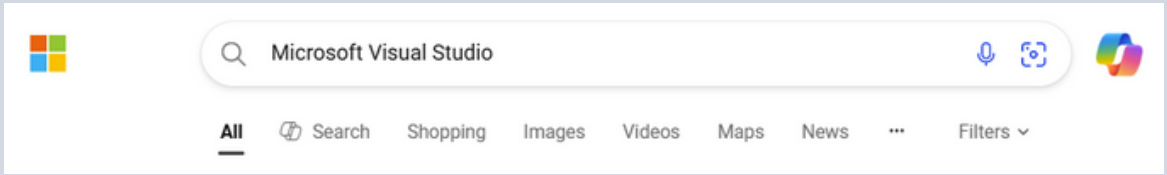
2. Add your Data into preferred environment

There are several Ways to Run Python Code.

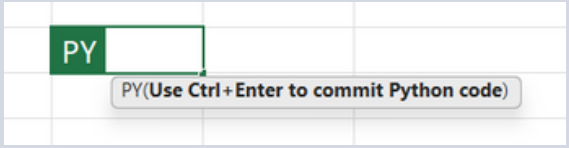
Easiest to Start ↓

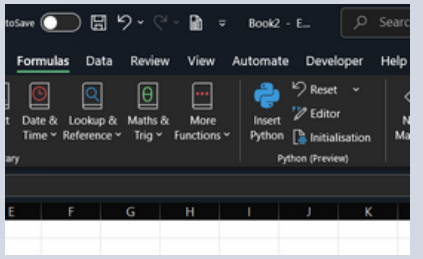


If you run on Microsft ↓



If you prefer to stay in Excel ↓





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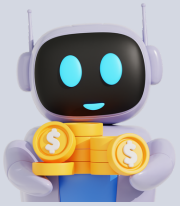
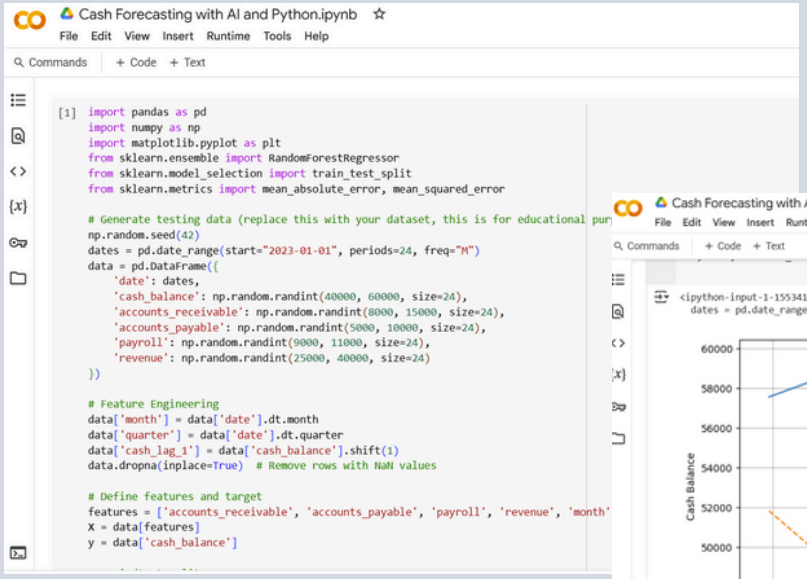
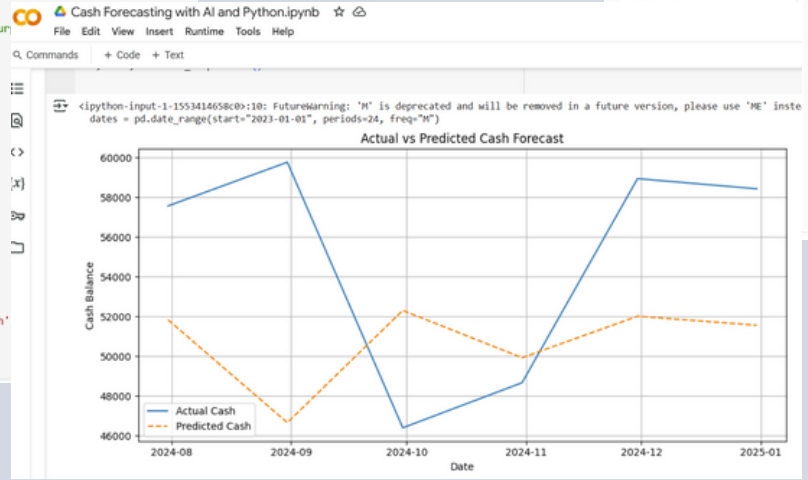
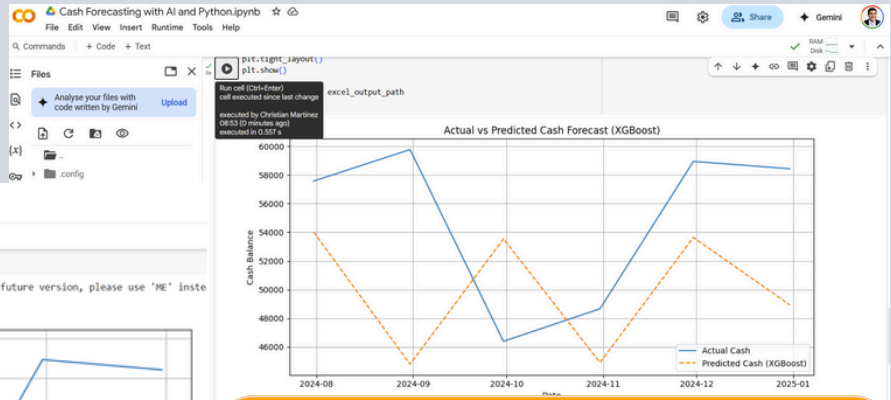


3. Run the Code

Steal my 3 Python Code Templates and use the power if AI Straight Away!







Link in the comments

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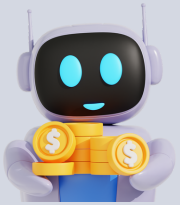

4. Get your Forecast

Get the data into an Excel

```
# Export forecast to Excel
excel_output_path = '/content/cash_forecast_xgb.xlsx'
xgb_forecast_output.to_excel(excel_output_path, index=False)
```

Get Visuals as images

```
# Save plot as PNG
png_output_path = 'cash_forecast_xgb.png'
plt.savefig(png_output_path)
```

Get PDFs or PPTs

```
# Save plot as PDF
pdf_output_path = 'cash_forecast_xgb.pdf'
plt.savefig(pdf_output_path, format='pdf')
plt.close()
```

```
# Create PowerPoint presentation
prs = Presentation()
slide_layout = prs.slide_layouts[5]  # Title Only layout
slide = prs.slides.add_slide(slide_layout)
```

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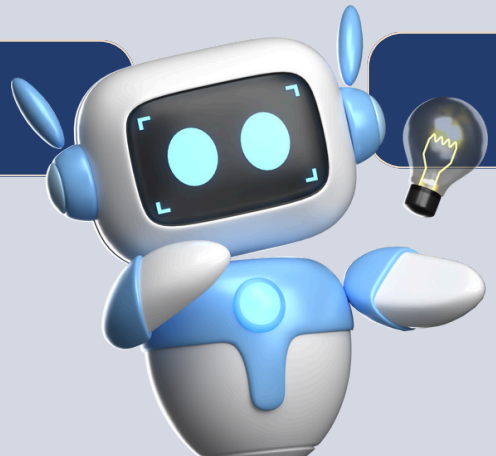
5. Iterate and Improve Forecast!

These are some ways:

- Add External Drivers
- Increase Data Frequency
- Feature Engineering
- Model Comparison and Stacking
- Anomaly Detection
- Continuous Retraining



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Did you enjoy this?

My name is Christian Martinez and I share Practical Ways to use AI for FP&A and Finance

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