



1: Predicting Donation Trends with AI

Smarter fundraising starts with smarter forecasting.

Why It Matters

For many nonprofits, fundraising is a high-stakes guessing game. Predicting when donors will give, and how much, can improve planning, cash flow, and campaign strategy. With the help of AI, your organization can make data-backed predictions that reduce uncertainty and increase revenue.

Learning Objectives

By the end of this lesson, you will:

- Understand how AI models forecast donations.
 - Learn how to prepare donation data for analysis.
 - Identify tools that can generate donor trend predictions.
 - Apply insights to real fundraising decisions.
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Step-by-Step: How to Predict Donation Trends

1. Gather Historical Donation Data

Start with your last 2–5 years of donation records. Key fields include:

- Date of donation
- Donation amount
- Donor ID or email (anonymized if needed)
- Source or channel (email, event, social media)

2. Clean and Organize the Data

Remove duplicates and fill in missing values. Group donations by month or quarter to identify trends over time.

Pro Tip: Use a spreadsheet or CRM export to create a CSV file for easy analysis.

3. Choose Your Forecasting Method

Common AI models for time-based prediction include:

- **Linear regression** for simple growth patterns
- **Time series models** like ARIMA or Prophet (for seasonality)
- **Clustering algorithms** to group donor behavior

Tools to consider: Google Sheets + BigQuery ML, Microsoft Excel with AI plugin, or no-code platforms like MonkeyLearn.

4. Generate a Forecast

Run the model and ask it to project donations over the next 6–12 months. Watch for:

- Recurring spikes (e.g. end-of-year giving)
 - Lulls between campaigns
 - Donor reactivation cycles
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Real-World Scenario

A mid-sized nonprofit exports 3 years of donation data to a forecasting tool. The AI model predicts a drop in summer giving unless email engagement is boosted in May. The team launches an early campaign and sees a 14% increase over last summer.

Interpreting Results

Use AI predictions to:

- Plan major gift asks at optimal times
- Schedule campaigns for seasonal success
- Customize thank-you outreach to repeat donors

Always review the forecast against current events or unusual disruptions. AI can't predict a pandemic, but it can reveal patterns we might overlook.

Try This Activity

Create a simple spreadsheet with donation totals by month.

Plot a line graph and try extending the trend manually.

Now, compare your intuition with the output from an AI tool.

Where do they agree, and where do they differ?

What's Next?

- ✓ Create a “Donor Forecasting Dashboard” for your next board meeting.
 - ✓ Combine predictions with donor segmentation for tailored messaging.
 - ✓ Move on to Lesson 2: *Identifying At-Risk Beneficiaries*.
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Organization: AI for Altruism

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This datasheet is part of A4A's growing AI Readiness Toolkit for nonprofits.