



# Al - Enabled Target Start-Up

# Scoring Tool





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#### **About ADI and ADVentures**



>\$9Bn revenue/yr



75k+ products



100k+ customers



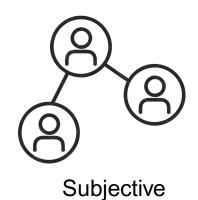
R&D, manufacturing footprint

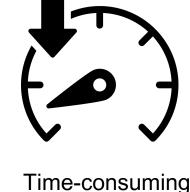
ADVentures is the corporate innovation and investment of Analog Devices. We invest globally in early-stage technology start-ups that are defining new ways to stay ahead of what's possible.

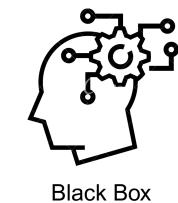
This project supports ADVentures by scaling the identification of high-potential start-ups for minority investment.

#### **Problem Statement**

ADVentures currently screens external companies using a manual, unstructured evaluation process led by domain experts. This process is:









**Data Landscape** 



500+ illustrative startups from **ADVentures** research



only 200 companies labeled



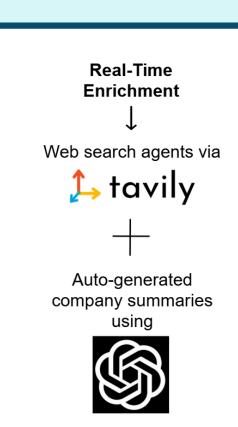
Highly imbalanced only ~15% are "high potential" targets



23 engineered features capturing growth, funding, team, patents

We employed a hybrid data strategy that combined structured company attributes with unstructured real-time signals.

The dataset includes company stage, funding, ownership type, patent counts, business focus, and web intelligence (e.g., news, partnerships, momentum) via Tavily API — enabling a more context-aware scoring model for investment prioritization.



#### **PitchBook**

## Methodology

#### **ML Track**

#### **Best Model: XGBoost**

Chosen for its robustness with tabular data, class imbalance handling, and model interpretability



15 of 17 high-potential companies flagged



89% recall on lowpriority firms  $\rightarrow$  less manual review



74% overall model accuracy

#### **Technical Highlights**

- Trained on engineered financial + contextual features
- Balanced with BorderlineSMOTE to handle class imbalance
- Evaluated via 5-fold cross-validation on 3-class labels
- · Supports binary deployment with calibrated thresholds for decision control

### **LLM Track** \rfloor tavily **PitchBook Product Analyzer** Checker Checker **Analyzer** Report Output PDF Score(1-5) + Rationale

#### **Results and Statiscal figures**

Node	Accuracy	Performance Summary
Product Checker	22/28 (79%)	Accurately identified high- priority categories aligned to ADI markets
Financial Analyzer	28/28 (100%)	Perfect alignment with ADI's strategic priorities
Legal Analyzer	25/28 (89%)	Strong confidence evaluation
Alignment Checker	23/28 (82%)	Validated operational and innovation alignment

#### Overall Accuracy = 88%

The multi-node evaluation pipeline achieved an average accuracy of 88% across 28 companies, with robust performance in financial alignment and strong results + complete interpretability in category focus, investor confidence, and operational fit. This demonstrates the tool's capability to reliably screen and prioritize high-potential companies for ADVentures strategic initiatives while significantly reducing manual review effort

## **Business Impact and Future Roadmap**

### **Business Impact**





classification



**Cost-effective** resource allocation



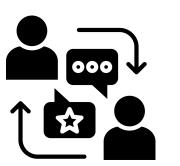
Manual effort ↓

scalable triage

process

**Codified logic** human decision → AI reasoning

### **Future Work**



human feedback-

based labeling

**Active learning** 

**Dashboard & API** internal DB

integration



**Pilot Deployment** 

launch MVP



**Scalability &** automation enable batch scoring + multi-team workflows