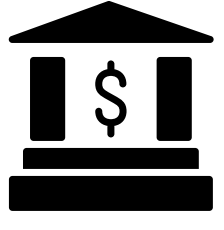
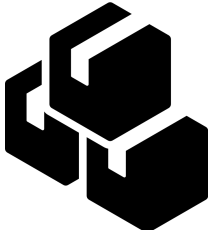


About ADI and ADVentures



>\$9Bn revenue/yr



75k+ products



100k+ customers



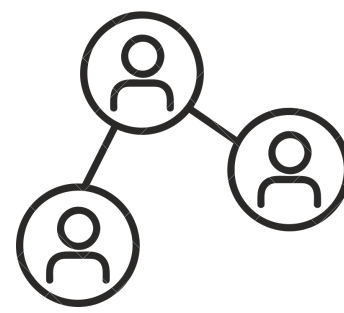
R&D, manufacturing footprint

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.

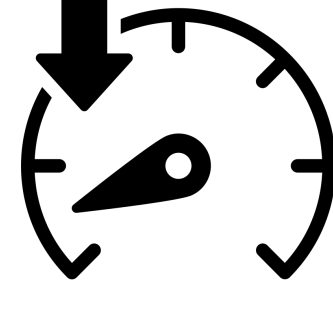
This project supports ADVentures by scaling the identification of high-potential start-ups for minority investment.

Problem Statement

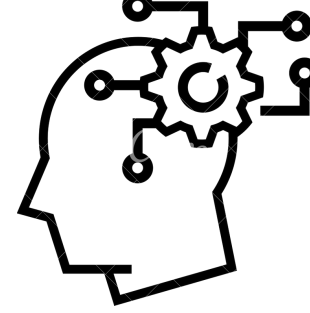
ADVentures currently screens external companies using a manual, unstructured evaluation process led by domain experts. This process is:



Subjective



Time-consuming



Black Box



Not Scalable

Data Landscape



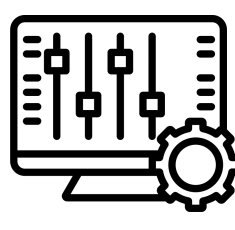
500+ illustrative startups from ADVentures research



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 low-priority firms → less manual review

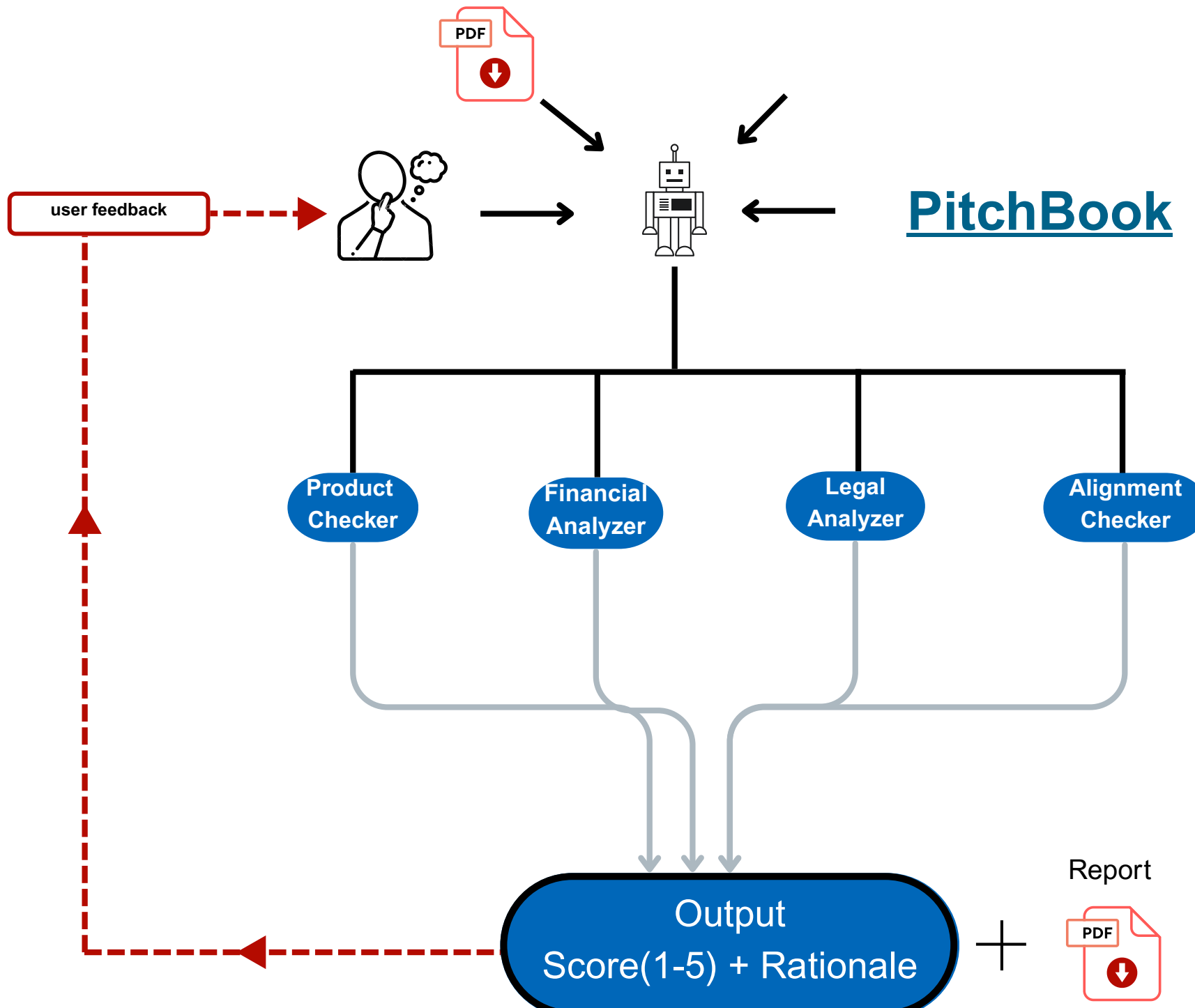


74% overall model accuracy

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



Results and Statistical figures

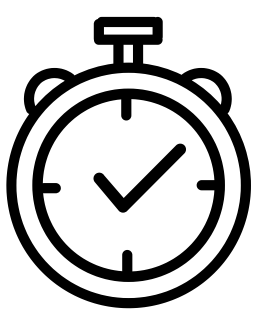
Node	Accuracy	Performance Summary
Product Checker	22/28 (79%)	Accurately identified high-priority categories aligned to ADI markets
Financial Analyzer	28/28 (100%)	Perfect alignment with ADI's strategic priorities
Legal Analyzer	25/28 (89%)	Strong confidence evaluation
Alignment Checker	23/28 (82%)	Validated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

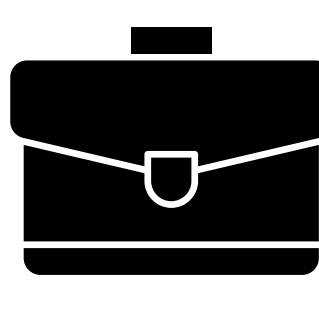
Business Impact



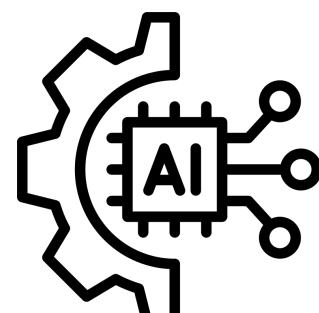
80% faster product classification



Cost-effective resource allocation

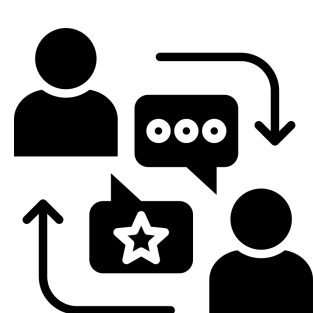


Manual effort ↓ scalable triage process



Codified logic human decision → AI reasoning

Future Work



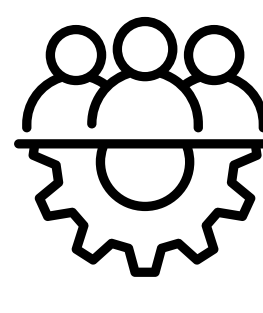
Active learning human feedback-based labeling



Dashboard & API internal DB integration



Pilot Deployment launch MVP



Scalability & automation enable batch scoring + multi-team workflows