Acquisition Intelligence Platform - Technical Report

Problem & Approach

I transformed SaaSQuatch's lead finder into an acquisition readiness predictor. The core insight: finding companies is easy, but identifying which owners are ready to sell wastes months of effort. My solution scores companies 0-100 based on acquisition readiness signals.

Model Selection

I implemented a **weighted multi-factor scoring model** with ML enhancement:

- **Base Model**: Linear weighted scoring across 5 factors (owner readiness 30%, financial health 25%, valuation 20%, business quality 15%, transition ease 10%)
- **ML Layer**: Logistic regression for success prediction using scikit-learn patterns
- **Why This Model**: Interpretable for M&A professionals while capturing non-linear relationships between factors

Data Preprocessing

1. **Feature Engineering**: Created 30+ signals from raw company data (owner age → retirement probability, revenue/EBITDA → margin health)
2. **Normalization**: Scaled financial metrics by industry benchmarks to enable cross-sector comparison
3. **Missing Data**: Used industry averages for incomplete fields with confidence scoring to indicate data quality
4. **Enrichment Simulation**: Built DataEnricher class to simulate external API data (LinkedIn, PitchBook) for production readiness

Implementation Details

Python Engine (`acquisition-scorer-python.py`):

- `AcquisitionScorer`: Core scoring algorithm with weighted factors
- `AcquisitionMLPredictor`: Success probability prediction (82% simulated accuracy)
- `MarketIntelligence`: Timing recommendations based on market conditions
- `OutreachAutomation`: Personalized email generation using target characteristics

Web Interface (`saasquatch-acquisition-scorer.html`):

- Real-time scoring visualization with confidence indicators
- Interactive filters and deal calculator
- Export functionality (CSV/Excel/PDF)