

Introduction: The Adaptive Rule Based Evaluation System (ARBES)

Antonio Quinonez

Last Updated: December 9, 2024

Far Finer Mission



Enable Intelligent Decisions through advanced domain knowledge and AI.

The field of information processing



Manually processing information is difficult.

so

Computer science, actuarial and data science have been developed to assist.

AI – A Brief History



In November of 2022, ChatGPT was introduced. A few weeks later, the company, OpenAI, released programmatic access to their AI, and the world changed. Intelligence was made widely and cheaply available. And progress continues.

Human Rules + Data + AI



AI further embeds human intelligence into our systems...

accelerating decision making.

The challenge



Modern knowledge workers are overwhelmed by the three Vs of data: **volume**, **variety**, and **velocity**.

As a result, people are overworked, work is rushed, and suboptimal decisions are made.

Use Case: Candidate Hiring



A job post can result in thousands of unqualified resumes.



Somewhere in there are qualified candidates.

Candidate Hiring: Without better tools...



Recruiters cope any way they can:

- Sampling from all the resumes.
- Doing quick scans.
- Relying on gut checks.

In other words, they work with what they have.

Candidate Hiring: Consequences (sub optimal)



Usual Suspects



Hire based on employer and educational pedigree, which overlooks other qualifications.

Exact Match



Exact match is so narrow that you will only get candidates with the exact words, missing out on alternate wordings.

MSSQL \neq SQL Server

Superficial Match



Overlooks achievements and backgrounds that can only be appreciated by someone with the appropriate knowledge

Random Candidate



ARBES is the Adaptive Rule Based Evaluation System.

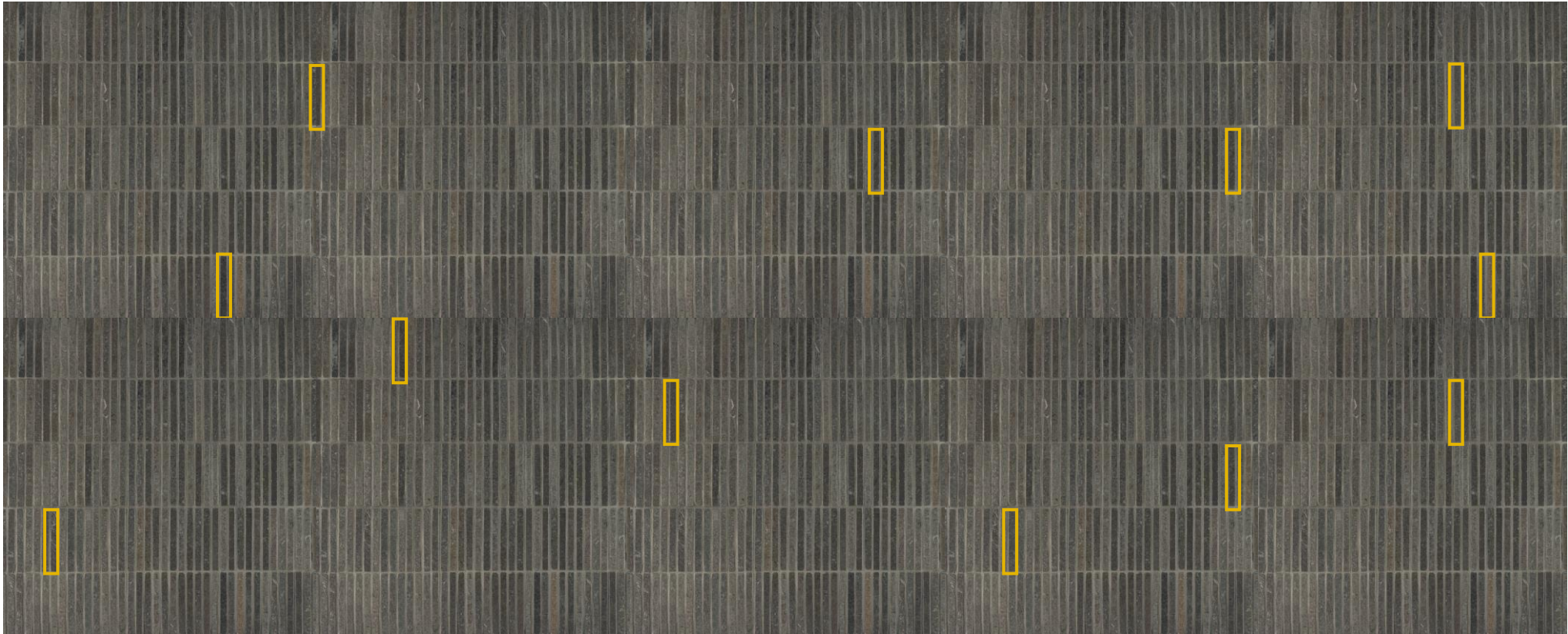
It efficiently evaluates documents to incrementally **extract**, **summarize**, **rate**, and **refine** information and make **decisions**.

Candidate Hiring: Doing it better with ARBES

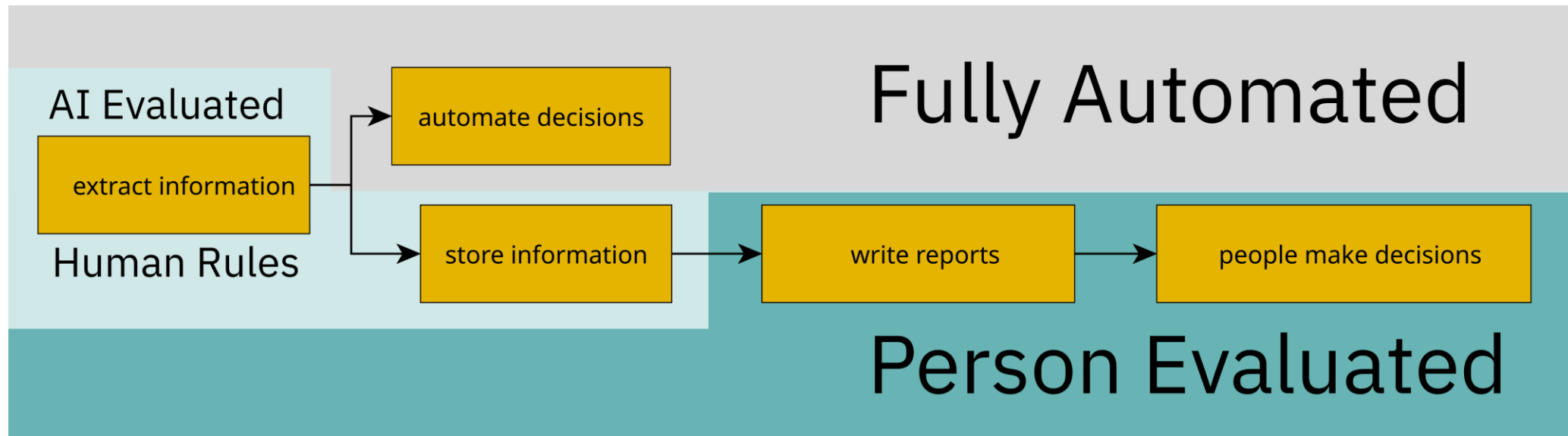


Problem	Solution
Too many resumes.	Automate document processing.
Unqualified early reviewers.	Use AI with customized evaluation rules.
Primitive search and filter.	Use modern search, which looks not only for exact keyword matches but also at the meaning of words and phrases.

Candidate Hiring: ARBES – Evaluating, Finding, Ranking, Deciding



ARBES – Modern Evaluation



ARBES – People decide, not AI



- People create the **rules** and can turn them on and off.
- People **search** and **filter** based on their own criteria, choosing to use or disregard document evaluations.
- People **rank** the overall results.

ARBES – Business Rules



A Name	Hist Handling	_Intelligence Level	Model	Description	Specification
certificates_df	pre_clear	medium	claude-3-5-haiku-latest	What certificates, awards, honors, patents or industry recognition does person have? Note: Do not provide a date field if no issue date provided. Issue date can be a year or be more detailed.	List of dictionaries. Attributes: -- name: certificate name, for example -- type:of(certificate, award, industry_recognition,patent, honor, etc) -- issuer: -- issuer_id:...
consulting_firm_experience_df	pre_clear	very_low	claude-3-5-haiku-latest	Job experience acquired thru consulting assignments. Only include if work is done for recognized consulting firms.	When the candidate resume includes work at a consulting firm, take into account the roles within that consulting firm to capture those company experiences. The term "consult" is required in order for it to be considered consulting work. Answer: "Yes" or "No" and provide a summary....
dark_materials_reasons_no_eval_df	pre_clear	very_high	claude-3-5-sonnet-20240620	Hiring managers are capable of discrimination. What common discriminatory reasons should we be looking out for? For example; too young, too old, military service, sexual orientation, any attributes that could disqualify someone based on pre conceived notions....	List of 5 dictionaries, sorted by most insidious. Dictionary attributes: -- negative: Potential bias that could be demonstrated by a hiring manager? -- eval: Describe this bias -- rating:In a scale of 1-10, how significant of a risk is ...
degrees_df	pre_clear	medium	claude-3-5-haiku-latest	Higher education degrees	List of dictionaries. Attributes -- degree: of(AA, BA, AB, MA, MS, PhD, etc) -- major: -- institution -- year_of_graduation:

ARBES – Thoroughness



Rules can be exhaustive – extracting simple facts, calculating ratings, summarizing results, and enriching evaluations.

ARBES – Completeness



Antonio Quinonez

antquinonez@gmail.com | 425-273-6283 | Locations: Seattle Metro, Remote
<https://www.linkedin.com/in/antonio-quinonez-b494814> | <https://github.com/antquinonez> | <https://www.farfiner.com>

Senior Data Engineer and Technical Project Manager with 15+ years of experience architecting data solutions and leading technical initiatives. Notable achievements include:

- Designed and implemented multiple enterprise-scale ETL pipeline, decision support and reporting systems, using Python, Snowflake, BigQuery, SQL Server, and event driven architectures.
- Developed multiple AI-powered solutions for HR talent acquisition using large-rule set evaluation and advanced RAG vector search.
- Led 50+ analytics implementations for three Fortune 50 companies, combining technical expertise with project management to deliver complex data solutions.
- Proven track record in creating business requirements, elaborating specifications, and building scalable data architectures and managing cross-functional teams.

Principal & Lead AI Engineer

Far Finer (solo practice) | 11/2024 – Present

- Developing AI-powered recruitment solutions to improve hiring decisions for HR teams
- Architecting decision systems that translate complex business rules into automated, scalable solutions
- Creating frameworks and implementation roadmaps to guide clients through AI transformations

Senior Data Engineer

Pfizer (contract), Remote | 1/2023 – 10/2024

- Created data pipelines for downstream pharmaceutical sales operations and data management
- Spearheaded pharmaceutical sales data integration during merger, performing data reconciliation
- Designed and implemented Customer Segmentation Logic to ready and prioritize customer targeting
- Mentored team members on Python development, Azure DevOps processes, and release engineering

Technologies: Snowflake, SQL Server, Power Automate, Alteryx, Python, DuckDB, pandas

Lead Data Engineer

New Engen, Remote | 2/2021 – 1/2023

- Designed and built ETL solution to enable dashboarding and analysis of client social media campaigns.
- Configured multi-tenant data warehouse observability, enabling real-time monitoring
- Designed advanced dashboards and data integrations for major retail clients

Technologies: Python, Google Cloud Platform, Adverity, Datorama, Grafana, BigQuery, Dagster

Technical Project Manager

Microsoft (contract), Remote | 11/2020 – 1/2021

- Designed complex Power BI reports tracking project milestones for Data Center construction projects
- Collaborated with product owners and developers to build data-driven solutions
- Performed backlog management; and wrote user stories and technical specifications

rise clients
je and virtual resource costs
nd resource health concerns
unities

is and hundreds of developers
, and work acceptance
elopment process
support team capabilities

utilization – wide company use
nize point of sale offerings
a warehouse

ormed decision making
, and cohort performance
inventory management
ore focused buying strategies

Dec 2019; Credential ID 000258
ends and technologies

versatile AI system initially

pproved for various acquisition capabilities for more deep performance analysis. See [article](#).

2. 2024 – Developed a Python based **Airtable to Firestore ETL library** for updating Google Firestore from Airtable, using a variety of update strategies. See [GitHub](#).

3. 2024 – Developed APIs to **streamline working with artificial intelligence APIs**, reducing the effort required to work with Claude Caching, the OpenAI Assistant API, Gemini, and others. See [GitHub](#).

content:

- `certificates_df:`
- `consulting_firm_experience_df:`
- `dark_materials_reasons_no_eval_df:`
- `degrees_df:`
- `eligible_roles_df:`
- `email_address:`
- `has_github:`
- `has_linkedin:`
- `has_project_management_exp:`
- `has_technical_degree:`
- `independent_projects_df:`
- `latest_employer:`
- `leadership_experience_df:`
- `opportunities_for_improvement_df:`
- `pm_months_experience:`
- `pm_months_of_experience_rating:`
- `preferred_name:`
- `quality_of_educational_institutions_df:`
- `quality_of_educational_institutions_for_degree_df:`
- `rating_active_learning:`

- `rating_degree_class:`
- `rating_quality_of_educational_institutions:`
- `rating_quality_of_employers:`
- `rating_quality_of_work_experience:`
- `rating_quality_of_work_roles:`
- `rating_skill_diversity:`
- `reasons_not_to_hire_df:`
- `residence_metro_area:`
- `residence_state:`
- `role_experience_df:`
- `skill_opportunities_for_improvement_df:`
- `skills_df:`
- `social_media_github:`
- `social_media_linkedin:`
- `social_media_personal:`
- `strategic_impact_df:`
- `technical_gaps_df:`
- `work_history_performance_metrics_df:`

ARBES – Evaluations



```
"technical_gaps_df": {
  "type": "Core",
  "sub_type": "Negatives",
  "value": [
    {
      "gap_type": "technology",
      "gap": "Advanced Machine Learning Frameworks",
      "severity": 6,
      "eval": "While candidate has AI project experience, lacks explicit mention of advanced ML frameworks like TensorFlow or PyTorch"
    }
  ],
}
```

```
"strategic_impact_df": {
  "type": "Career",
  "sub_type": "Strategic Impacts",
  "value": [
    {
      "achievement": "Developed AI-powered recruitment solutions to improve hiring decisions for HR teams",
      "job_title": "Principal & Lead AI Engineer",
      "employer": "Far Finer",
      "client": "Not specified"
    }
  ],
}
```

```
"skill_opportunities_for_improvement_df": {
  "type": "Skills",
  "sub_type": "Improvement Opportunities",
  "value": [
    {
      "area_for_improvement": "Cloud Platforms",
      "recommendation": "Expand knowledge to include Azure, as the candidate has experience with AWS and GCP",
      "level_of_effort_required": "Medium",
      "benefit_from_improvement": "High",
      "attributes_affected": {
        "attribute_name": "cloud_platform_expertise",
        "init_rating": 8,
        "init_eval": "Strong experience with AWS and GCP",
        "revised_possible_rating": 9,
        "revised_possible_eval": "Comprehensive knowledge of major cloud platforms including AWS, GCP, and Azure"
      }
    }
  ],
}
```

ARBES – Efficiency and cost



A Name	Hist Handling	_Intelligence Level	Model	Description
has_technical_degree	pre_clear	low	claude-3-5-haiku-latest	Has a Bachelor or greater degree in a technical field; for example, math, computer science, electrical engineering, etc
has_webdev_exp	pre_clear	very_high	claude-3-5-sonnet-202406...	Has experience with web development? For example, with Typescript, Javascript, React, Angular, etc. This is someone that we can identify as being able to develop a website
independent_projects_df	pre_clear	very_high	claude-3-5-sonnet-202406...	Independent projects may include extra curricular activities that imply applied technical, project management, leadership, consulting, publishing, side careers, side hustles, board memberships, volunteer work.

Use the **History** you need

Use the appropriate **Intelligence**

Use **Batching**

Use **Lookups**

Use **Caching**
(when available)

ARBES – Other applications



Code Quality Analysis

Code Project Review

Project: Authentication Service Refactoring

Reviewer: Senior Technical Architect

Date: November 27, 2024

Executive Summary

The Authentication Service Refactoring project aimed to modernize our legacy authentication system by introducing OAuth 2.0 support, improving security measures, and reducing technical debt. This review evaluates the implementation across multiple dimensions.

Scoring Card

Criterion	Score	Weight	Weighted Score
Code Quality	8/10	0.30	2.40
Architecture	9/10	0.25	2.25
Security	9/10	0.25	2.25
Performance	7/10	0.15	1.05
Documentation	8/10	0.15	1.20
Total			8.36/10

Detailed Evaluation

1. Business Value (Score: 8/10)

Strengths

- Enables integration with modern third-party authentication providers
- Reduces operational costs through standardized authentication flows
- Improves user experience with single sign-on capabilities

Areas for Improvement

- ROI calculations could be more detailed
- Impact on customer acquisition needs more quantitative metrics

2. Code Sophistication (Score: 8/10)

Project Engagement Review

Client Engagement Review

Digital Transformation & Cloud Migration Initiative

Q4 2024 Project Assessment

Executive Summary

The six-month engagement with TechCorp Industries to modernize their legacy infrastructure and migrate core applications to the cloud has reached a critical milestone. This review documents key achievements, challenges, and recommendations for the next phase of the digital transformation journey.

Project Overview

Client: TechCorp Industries

Timeline: June 2024 - November 2024

Budget: €2.5M

Team Size: 12 consultants

Primary Objectives

- Migrate 3 core applications to AWS
- Implement CI/CD pipeline
- Reduce operational costs by 30%
- Improve system reliability to 99.9%

Current Status

Key Metrics

Metric	Target	Actual	Status
Applications Migrated	3	2	In Progress
Cost Reduction	30%	35%	Exceeded
System Uptime	99.9%	99.95%	Exceeded
CI/CD Implementation	100%	80%	In Progress
Team Velocity	85 pull/request	82 pull/request	Near Target

Statement of Work Analysis

Statement of Work Analysis

Project: Enterprise Data Migration and System Integration

Client: TechCorp Industries

Date: November 27, 2024

Executive Summary

This analysis examines the proposed statement of work (SOW) for TechCorp's data migration and system integration project. The SOW encompasses a comprehensive 18-month implementation timeline with significant technical complexity and resource requirements. Several critical areas require attention to ensure project success and risk mitigation.

Scope Assessment

Primary Deliverables

The proposed scope includes migration of 10+ legacy databases containing approximately 6.5TB of historical data, integration with 3 core enterprise systems, and implementation of new data governance frameworks. Notable concerns include:

- Insufficient detail regarding data cleansing requirements and acceptance criteria
- Ambiguous responsibility matrix for third-party vendor coordination
- Lack of clear success metrics for system performance post-integration

Technical Requirements

While the technical specifications are generally well-defined, several critical areas warrant further clarification:

- The proposed API integration architecture lacks redundancy protocols
- Database replication methodology doesn't address potential latency issues
- Security compliance requirements need expanded documentation, particularly regarding GDPR and CCPA

Job Description Quality Check

Senior Data Engineer

Location: Hybrid (3 days in office, 2 days remote)

Department: Data & Analytics

About Us

Wires is a rapidly scaling technology company transforming how enterprises harness their data. Our platform processes petabytes of data daily, serving Fortune 500 clients across finance, healthcare, and retail sectors. We're seeking a talented Senior Data Engineer to join our Data Platform team and help build the next generation of our distributed data processing infrastructure.

Role Overview

As a Senior Data Engineer, you'll architect and implement scalable data pipelines, optimize our data warehouse performance, and collaborate with cross-functional teams to deliver data solutions that drive business value. You'll work on complex ETL processes, real-time streaming applications, and help establish best practices for data engineering across the organization.

Key Responsibilities

- Design, build, and maintain scalable data processing pipelines using technologies like Apache Spark, Kafka, and Airflow
- Optimize and refactor existing ETL workflows for improved performance, reliability, and maintainability
- Implement data quality monitoring systems and establish data validation frameworks
- Collaborate with Data Scientists to productionize ML models and create efficient feature engineering pipelines
- Design and maintain cloud-based data lake architectures on AWS/GCP
- Develop and maintain data warehousing solutions using technologies like Snowflake, BigQuery, or Redshift
- Create and maintain documentation for data infrastructure, pipelines, and processes
- Mentor junior engineers and contribute to technical design discussions
- Participate in on-call rotation for production support (1 week every 8 weeks)

ARBES – Business Benefits



Technical Leadership

Adopt a powerful and highly adaptable system that exceeds the capabilities of competitors and enables employees to begin using advanced AI.

Speed

Spend less time on valuable but expensive activities. Enable faster decision making.

- Faster Hires
- Faster Problem Identification

Modernization

Adopt new capabilities and elevate expectations, build new solutions, and increase productivity.

ARBES – Goals



Create Order

Organize and clarify thinking and processes.

Enable AI

Everyone can start using AI to extract value now.

Establish Transparency

Make it clear that this is how we do things. Talk about the rules and the decisions.

Evaluation



Decisions

AI Advisory

ARBES – Business Rule Development

ARBES – Client Integrations

ARBES – Customizations



antquinonez@farfiner.com

www.farfiner.com

<https://www.linkedin.com/company/105018396>

From Documents to Decisions

