□Agent AI – HR Resume Screening Business Case Document:

Project Topic:
HR Resume Screening AI Agent

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HR Resume Screening Business Document AI Agent

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🤖 Agent AI – HR Resume Screening Business Case Document

Overalls Topics:

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1. Executive Summary:

Organizations today receive hundreds to thousands of resumes per job posting. Manual resume screening is slow, inconsistent, and not scalable.

This proposal introduces an **Agent AI–driven Resume Screening System** built using:

- GPT-4.1 (AI evaluation engine)
- n8n workflow automation

- Structured database (Supabase/Postgres)
- Automated email communication
- Batch processing architecture (1000+ resume capable)

The system automatically:

- Extracts resume content
- Matches against Job Description (JD)
- Scores candidates intelligently
- Makes shortlist/reject decisions
- Stores structured data
- Sends automated communication

This solution enables scalable, unbiased, and high-speed hiring.

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2. Business Problem Statement:

Traditional HR screening faces:

- ⏳ 5–10 minutes per resume manual review
- ❌ Inconsistent recruiter decisions
- 🖼️ Missed qualified candidates
- 👎 Delayed candidate communication
- 🚫 Inability to scale for 1000+ resumes

Example:
1000 resumes × 6 minute = 100 hours manual effort.

This is inefficient and costly.

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3. Business Objectives:

- Automate resume screening end-to-end
- Enable bulk resume processing (1000+)
- Reduce recruiter workload by 70–85%
- Ensure fair, consistent candidate evaluation
- Improve hiring speed
- Maintain structured audit trail

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4. Proposed Agentic AI Architecture:

Your actual workflow includes:

Resume Submission
→ Split Out Resumes
→ Process in Batches (20)
→ Extract Resume Text (GPT-4.1)
→ Normalize Text
→ AI Scoring / JD Match
→ Parse JSON
→ Decision Logic
→ Database Storage
→ Automated Email

Key Technical Strength:

- Batch processing prevents overload
- Loop-back mechanism ensures full bulk handling
- AI scoring ensures consistency
- Structured database enables analytics

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5. Resume Screening Workflow Logic:

Step 1 – Resume Intake

Candidates upload via form or bulk upload.

Step 2 – Batch Processing

System processes resumes in batches of 20:

- Prevents API overload
- Enables 1000+ resume scalability

Step 3 – AI Extraction

GPT-4.1 reads PDF and extracts structured text.

Step 4 – AI Scoring

AI evaluates:

- Skill relevance
- Experience match
- JD alignment
- Overall suitability

Step 5 – Automated Decision

If score ≥ threshold → Shortlist
Else → Reject

Step 6 – Database Storage

All structured data stored:

- Name
- Email
- Phone
- Skills
- Experience
- Match score

- Decision
- Timestamp

Step 7 – Email Automation

- Shortlisted → Interview email
- Rejected → Professional rejection email

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6. Decision Strategy:

The system eliminates manual bias by using:

- Skill match %
- Experience relevance
- JD alignment
- AI recommendation logic

This ensures:
✓ Data-driven decisions
✓ Repeatable evaluation
✓ Transparent screening

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7. Database & Audit Strategy:

Stored fields:

- Candidate Name
- Contact details
- Years of Experience
- Extracted Skills
- Match Score
- Decision

- Screening timestamp

Benefits:

- Reporting dashboards
- Hiring analytics
- ATS integration ready
- Audit-ready compliance

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8. Operational Benefits:

Metric	Improvement
Screening Time	↓ 70–85%
Hiring Cycle	Faster by 40–60%
Bulk Processing	Handles 1000+ resumes
Recruiter Effort	Significantly reduced
Candidate	Response Immediate

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9. Financial Impact (ROI Justification):

Manual Model:

1000 resumes × 6 min = 100 hours
Recruiter cost ≈ $25/hour
Total = $2,500 per cycle

AI Model:

- API + automation cost significantly lower
- Screening time reduced to ~1–2 hours automated

ROI Drivers:

- Reduced HR manpower cost
- Faster time-to-hire
- Better candidate quality
- Scalable without increasing headcount

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10. **Scalability Justification:**

Your system supports:

- 1000+ resumes per upload
- Batch-based loop processing
- Controlled API rate usage
- Modular expansion (multi-role hiring)

Future-ready for:

- Multi-department hiring
- Multi-country hiring
- ATS integration
- Dashboard analytics

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11. Implementation Approach:

Phase 1 – JD alignment
Phase 2 – AI workflow deployment
Phase 3 – Database integration
Phase 4 – Bulk testing (1000 resumes)
Phase 5 – Production deployment

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12. Strategic Recommendation:

Adopt Agent AI Resume Screening as a core HR automation initiative to:

- Improve hiring speed
- Reduce operational cost
- Enable unbiased screening
- Handle large-scale hiring
- Increase recruiter productivity
