**1. Overview**

**AutoJobApply Web Application - Final PRD**

**Version 2.0: Enhanced Experience Classification & Resume Automation**

**1. Core Objectives**

* Automatically apply to 10+ relevant jobs/user/day (Mon-Fri)
* Match jobs within **30 miles** of user's zip code
* Classify experience using: **Work History (direct/indirect) + Education Credits**
* Attach resumes via 3 methods: API > File Upload > Text Fallback
* Scale to 500 users (initial support: 150)
* Send confirmations to **user +**[**staffing@cswpbc.org**](https://mailto:staffing@cswpbc.org/)

**2. Experience Classification System**

**Formula**:  
Total Years = Work Experience + Education Credits

| **Component** | **Calculation Method** |
| --- | --- |
| **Direct Work** | 100% of duration (e.g., 2 years = 2.0) |
| **Indirect Work** | 50% of duration (e.g., 2 years = 1.0) |
| **High School** | 0 years |
| **Associate Degree** | 1 year |
| **Bachelor Degree** | 2 years |
| **Master Degree** | 3 years |
| **PhD** | 4 years |

**Level Thresholds**:

* **Entry Level**: < 3 years
* **Mid Level**: 3–8 years
* **Senior Level**: > 8 years

**3. User Flow**

1. **Signup/Login**
   * Email/password authentication
2. **Profile Setup**
   * **Personal Info**: Name, address, phone, email, zip code
   * **Education History**:
     + Institution name, degree type (dropdown), field of study
   * **Work Experience**:
     + Job title, company, dates, direct/indirect toggle
   * **Resume Upload**: PDF/DOCX → parsed & stored in AWS S3
   * **Preferences**:
     + Salary range, remote options, auto-respond "Yes" to questions
3. **Job Matching**
   * Filters: 30-mile radius + experience level + role relevance
   * Ranking: Skills match (50%) + experience alignment (30%) + education (20%)
4. **Auto-Application**
   * **Priority 1**: Attach via job board API (Indeed/Monster)
   * **Priority 2**: Puppeteer file upload
   * **Priority 3**: Paste parsed resume text
5. **Confirmation**
   * Email to user + [staffing@cswpbc.org](https://mailto:staffing@cswpbc.org/) with job details

**4. Technical Stack**

| **Layer** | **Technology** | **Purpose** |
| --- | --- | --- |
| Frontend | React + TypeScript | Responsive UI with red/white/blue theme |
| Backend | Node.js/Express.js | API & business logic |
| Database | PostgreSQL + PostGIS | User profiles, jobs, applications |
| Storage | AWS S3 (encrypted) | Resume files |
| Queue | Redis + Bull.js | Job application scheduling |
| Automation | Puppeteer Cluster | Job applications & scraping |
| APIs | Indeed, Monster, Google Geocoding | Job search & location data |
| Email | Nodemailer + SendGrid | Application confirmations |

**5. Key Algorithms**

**Experience Calculator**:

javascript

Copy

Download

function calculateExperience(work, education) {

const workYears = work.reduce((sum, job) => {

const years = (job.endDate - job.startDate) / 31536000000;

return sum + (job.isDirect ? years : years \* 0.5);

}, 0);

const educationCredits = {

high\_school: 0, associate: 1, bachelor: 2, master: 3, phd: 4

};

return workYears + educationCredits[education.degree];

}

**Job Matching Score**:

python

Copy

Download

score = (0.5 \* skill\_similarity) + (0.3 \* experience\_match) + (0.2 \* education\_relevance)

**6. Database Schema**

**Users**

* id, email, password\_hash, name, address, zip\_code

**Education**

* user\_id, institution, degree\_type, field\_of\_study

**Work Experience**

* user\_id, job\_title, company, start\_date, end\_date, is\_direct

**Profiles**

* user\_id, resume\_s3\_key, resume\_text, total\_experience, experience\_level

**Applications**

* user\_id, job\_id, applied\_at, method (api/upload/text)

**7. Auto-Apply Workflow**

Diagram

Code

Download

EmailJob BoardPuppeteerQueueMatchingJob APIsParserS3BackendUserEmailJob BoardPuppeteerQueueMatchingJob APIsParserS3BackendUseralt[API available][File upload]loop[Daily at 8 AM]Upload resume + profileStore encrypted resumeExtract work/educationTotal experience = 3.5 (Mid Level)Fetch jobs (30 miles)Rank jobs by relevanceAdd 10+ jobsApply with resumeSubmit via APIUpload resumePaste resume textApplication resultSend dual confirmations

**8. Security & Compliance**

* **Data Encryption**: AES-256 for PII/resumes
* **GDPR Tools**: 1-click data export/deletion
* **Anti-Blocking**:
  + Proxy rotation (BrightData)
  + CAPTCHA solving (2Captcha)
  + Randomized human-like interactions
* **Access Control**: IAM roles for S3/Puppeteer

**9. Scalability Plan**

| **Resource** | **0-150 Users** | **150-500 Users** |
| --- | --- | --- |
| Server | AWS t3.large | Kubernetes cluster |
| Puppeteer | 5 Docker containers | Auto-scaling worker pool |
| Database | PostgreSQL 50 GB | RDS read replicas |
| Job Queue | Redis 1 node | Redis Cluster |

**10. Metrics & Monitoring**

* **Success Rate**: Applications by method (API/upload/text)
* **Experience Accuracy**: Parsed vs manual experience reports
* **Job Match Quality**: % of applications receiving interviews
* **System Health**: Uptime, queue backlog, error rates (Grafana)