2025
Hawai'i Annual Code Challenge (HACC)

Challenge Title	AI-Powered Screening for Applicant Qualification
Department / Organization	Department of Human Resources Development (DHRD)
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The Challenge	
Describe situation to be solved	The Department of Human Resources Development (DHRD) Employee Staffing Division (ESD) is responsible for reviewing and qualifying applicants to fill vacancies across the State of Hawai'i. Currently, ESD faces a backlog of over 5,500 applications that have not yet been reviewed. This backlog delays recruitment timelines, slows down the hiring of critical positions, and impacts the delivery of services to the public. Manual review is highly time-consuming, and limited staffing capacity makes it difficult to keep up. Manually reviewing thousands of resumes is a slow, resource-intensive process that strains our limited staffing capacity. Our goal is to design a solution that uses artificial intelligence and automation to assist in the efficient and timely screening of applicants, ensuring that only candidates who meet the minimum qualifications requirements (MQs) are advanced to human review. By leveraging technology to streamline and automate applicant screening, the State can accelerate hiring, reduce backlogs, and ensure qualified candidates are referred to agencies more quickly and efficiently.
Preconditions *(How does it work now)*	1. Job applicants apply through NEOGOV, DHRD's application processing and onboarding system software. 2. In addition to submitting job history and education, applicants respond to a set of job-specific qualification questions. 3. Human examiners manually review resumes and supporting materials to confirm whether applicants meet all required qualifications. This is a repetitive, person-intensive process that is subject to delays.

Assumptions/Issues *(list any conditions that could impact the solution)*	1. Previous relevant, qualifying job experience 2. Length of relevant job experience 3. Education or Degree 4. Course Certification 5. Qualified applicants must meet or exceed the established MQs to be considered

Current Approach
(how is situation currently being handled)
	1. **Application Intake:**
	   a. Current: DHRD uses NEOGOV as its main system for posting job openings, processing applications, and onboarding new employees.
	   b. Bottlenecks: The system experiences delays because numerous applicants create extensive queues that exceed its limited capacity for downstream processing.
	   c. Potential Opportunity: The system needs automation to extract data from resumes and applications for quicker screening purposes.
	2. **Basic Qualification Questions:**
	   a. Current: Applicants answer standard questions about their education background and work experience and professional licenses through the system.
	   b. Bottlenecks: The system faces delays because applicants submit incomplete or unclear responses that need human intervention for follow-up.
	   c. Potential Opportunity: The system should use artificial intelligence to validate responses in real time by employing smart forms or AI-powered validation tools.
	3. **Preliminary Screening (Autoscreen):**
	   a. Current: ESD has started implementing NEOGOV's Autoscreen system which automatically removes applicants who fail to meet the basic qualification standards.
	   b. Bottleneck: Autoscreen system can only perform basic qualification checks but it lacks the capability to evaluate resumes or specific requirements in detail. Autoscreen is projected to automate some of the process but does not provide an AI solution.
	   c. Potential Opportunity: The system should receive AI/NLP model upgrades to assess the applicability of work experience and certifications and skills which go beyond basic keyword searches.
	4. **Comprehensive Review**
	   a. Current: Human examiners conduct manual assessments of resumes and application materials to check if applicants fulfill all minimum requirements.
	   b. Bottleneck: The current backlog of 5,500+ applications exists because manual review processes consume excessive resources.
	   c. Potential Opportunity: A trainable AI assistant should be deployed to evaluate applications and assign Likely Qualified or Likely Not Qualified or Needs Human Review labels which will decrease examiner workloads and speed up referral processes.

Users *(Who would use the application - employees or constituents or both? How many users would there be?)*	1. Recruiters/Examiners: DHRD staff screening thousands of applications per year. 2. Applicants: Individuals submitting resumes, experience, and education credentials. 3. Potential user base: ~30–50 staff internally; thousands of applicants annually.
Business Rules	1. Must align with Hawaiʻi Administrative Rules (HAR), Chapter 76 regarding minimum qualifications. 2. Key criteria: education (degree/certificate), work experience (years, relevance), licenses/certifications. 3. Must integrate with NEOGOV to pull applicant information AND must stand alone as its own system as NEOGOV is a proprietary system. 4. Accuracy and fairness are essential to ensure compliance with the State Constitution's merit principle.
Special Requirements	1. The solution requires privacy and data security measures to protect applicant information. 2. The solution should provide staff members with clear visibility into the reasoning behind candidate screening decisions. 3. The solution needs to be flexible and able to learn from changes in job requirements.
Technical Platforms *(in use or desired to be used)*	1. DHRD uses NEOGOV as its main application and onboarding system. 2. A proposed solution will train an AI model using sample resumes and job postings and historical qualification decisions as training data. 3. The solution should integrate with the NEOGOV system through acceptable methods, such as API, or function as a standalone prototype.
Data set to be used or collected	1. Historical resumes and applications (with identifying info removed for privacy). 2. Job class specifications and MQs published by DHRD. 3. Outcome labels: Meets MQs / Does Not Meet MQs.
Data set calculations or reporting needs	1. Percentage of applicants screened in/out. 2. Accuracy compared to human review. 3. Processing time per application. 4. Reduction of backlog over time.
Solution Road Map	
Basic Flow *(steps of user action/system response)*	1. Applicant submits resume and application. 2. AI screening tool parses resume and application data. 3. Tool applies MQ rules and outputs decision: Likely Qualified / Likely Not Qualified / Needs Human Review. 4. Recruiters review flagged cases and confirm AI decisions. 5. Qualified candidates passed on to hiring agencies.

Goal of Solution	To create a trainable AI recruiter assistant that rapidly and accurately identifies candidates meeting MQs, reduces manual workload, and ensures faster hiring for critical state positions.
Business Value *(potential financial or time savings)*	1. Time savings: Significantly reduce examiner review hours per application. 2. Cost savings: Fewer staff hours spent on repetitive screening tasks. 3. Service delivery: Filling vacancies faster helps departments maintain public services. 4. Scalability: System can expand to handle surges in application volume.
Success Scenario *(how you know a solution is working)*	1. Backlog of 5,500 applications reduced by 75% within 3 months of deployment. 2. Screening accuracy rate of 85–90% alignment with human reviewers. 3. Examiners report reduced workload and faster candidate referral times. 4. Vacancy rates are reduced by 2%-3%
To be completed by the HACC Planning Committee	
Community/Industry Data Available	
Potential Community/Industry Co-Sponsors	