HireFlow: Resume Screening in Applicant Tracking System Using JobBERT and XGBoost

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User Guide: HireFlow ATS Powered by JobBERT and XGBoost

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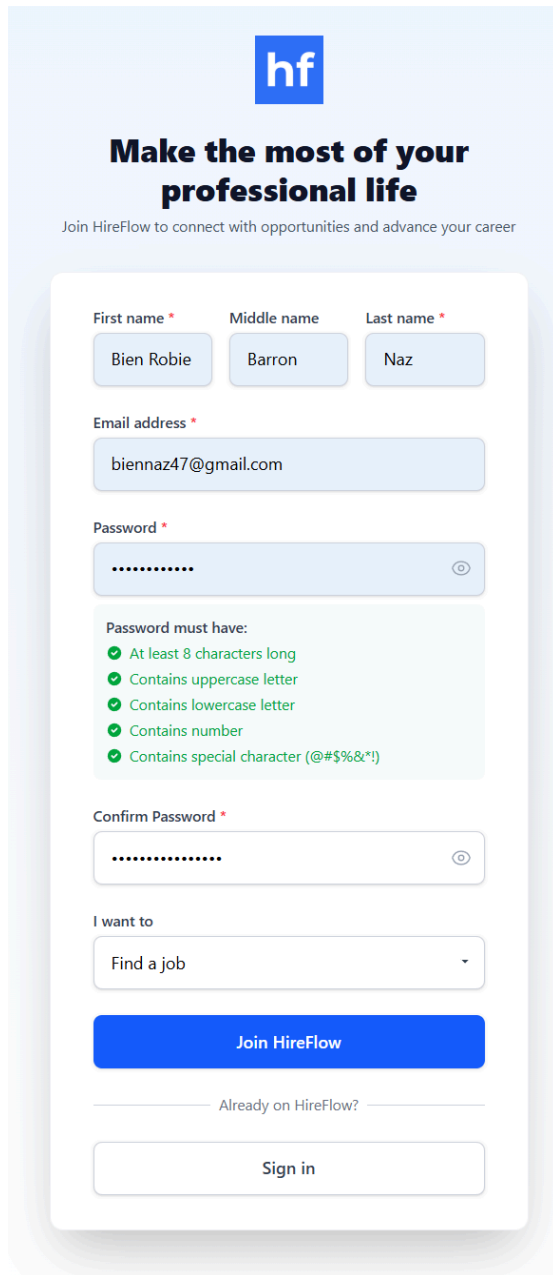
HireFlow is a web-based applicant tracking system designed to streamline recruitment for employers and job seekers. It features multiple integrated modules: the Authentication Module handles secure login, registration, and role-based access; the Job Management Module allows employers to manage job postings with search and filter tools; and the Applicant Management Module enables tracking and updating applicant statuses with detailed candidate profiles. The Dashboard Module offers real-time analytics and visual insights, while the Application Process Module lets job seekers browse jobs, apply, upload resumes, and track their application status. The Resume Analysis Module leverages JobBERT to extract and match resume details against job descriptions, providing match scores for more accurate screening. The Notification Module delivers real-time updates, and the Information Pages Module provides platform guidance, FAQs, and company info.

Hardware and Software Specifications

HireFlow was built using Python 3.11 along with libraries such as spaCy, NLTK, Transformers, PyTorch, and Scikit-learn for NLP and machine learning. Flask and Supabase powered the backend, while React and Figma were used for frontend development. Tools like VSCode, GitHub, Lucidchart, and Google Colab (with GPU/TPU support) supported collaboration and model training. The system runs on a Windows 11 machine with a minimum of an AMD Ryzen 5, 16 GB RAM, and RTX 2050 GPU, while the recommended setup includes a Ryzen 7, 32 GB RAM, and RTX 3050 GPU for optimal performance.

1   Account Creation

Navigate the HireFlow page and press the sign up button to register for an account

2   Select Role

Use the dropdown menu labeled **"I want to"** to select your role on the platform:
- Select **Find a job** if you are a job seeker looking for opportunities.

- Select **Hire talent** if you are an employer or HR representative looking to post jobs and recruit candidates.

Password *

••••••••••••   ⊙

Password must have:
- ✔ At least 8 characters long
- ✔ Contains uppercase letter
- ✔ Contains lowercase letter
- ✔ Contains number
- ✔ Contains special character (@#$%&*!)

Confirm Password *

•••••••••••••••   ⊙

I want to

Find a job   ▾
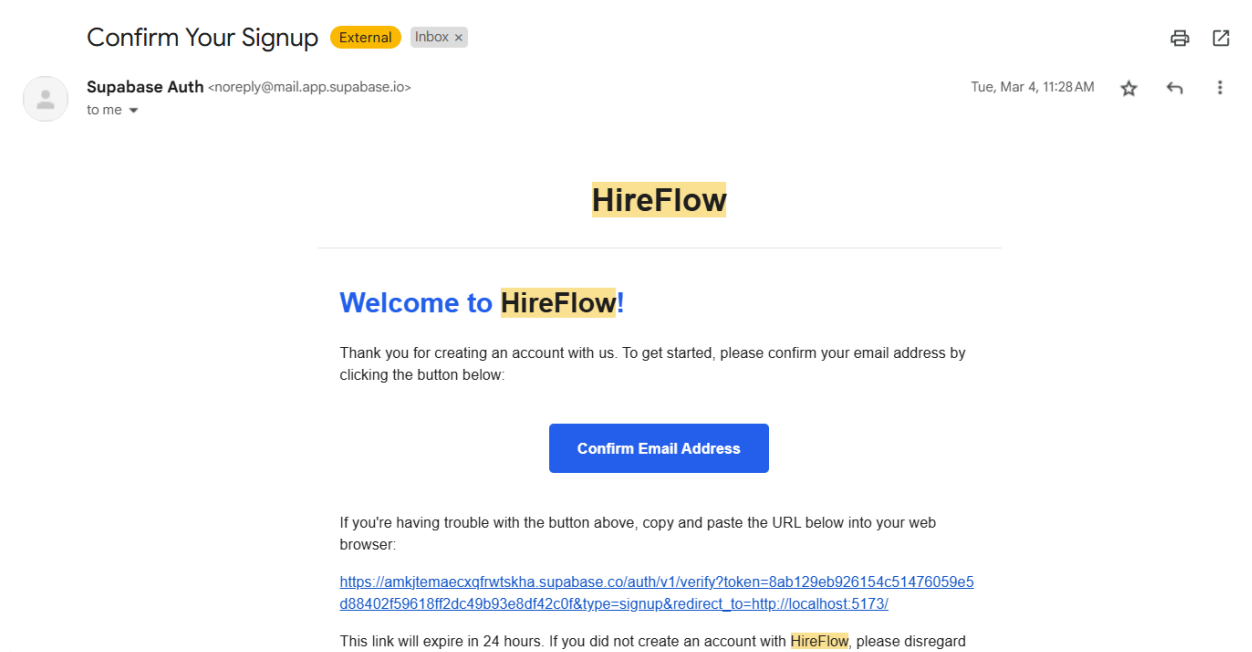
Find a job

Hire talent
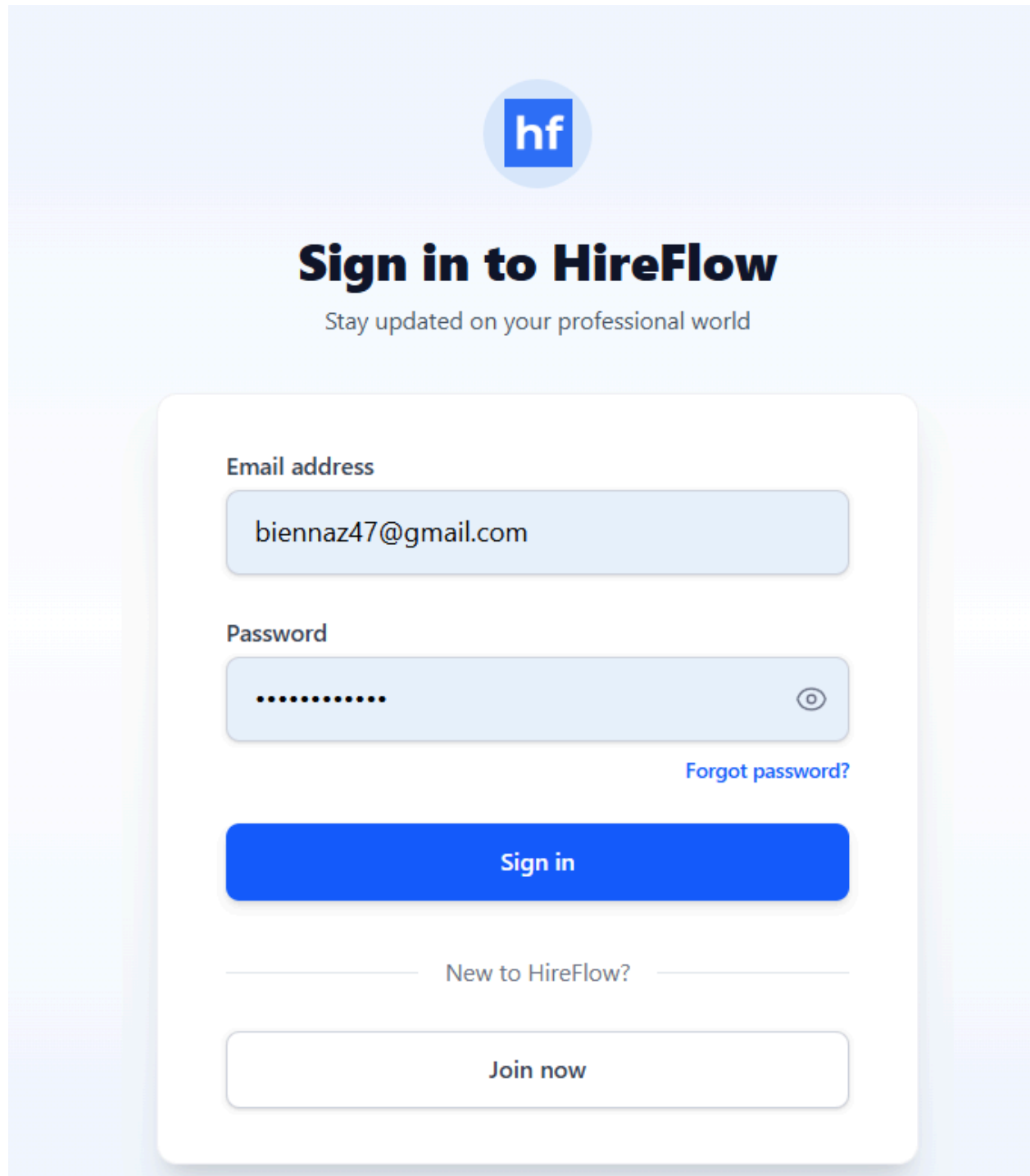
———— Already on HireFlow? ————

Sign in

3   Confirm Sign up

After clicking sign in, check your email to activate your account.

4 Logging In

Press the login button on the home page or the sign in button on the registration page to sign in on the application. Depending on your selected role, you would either see job postings or the employer dashboard.
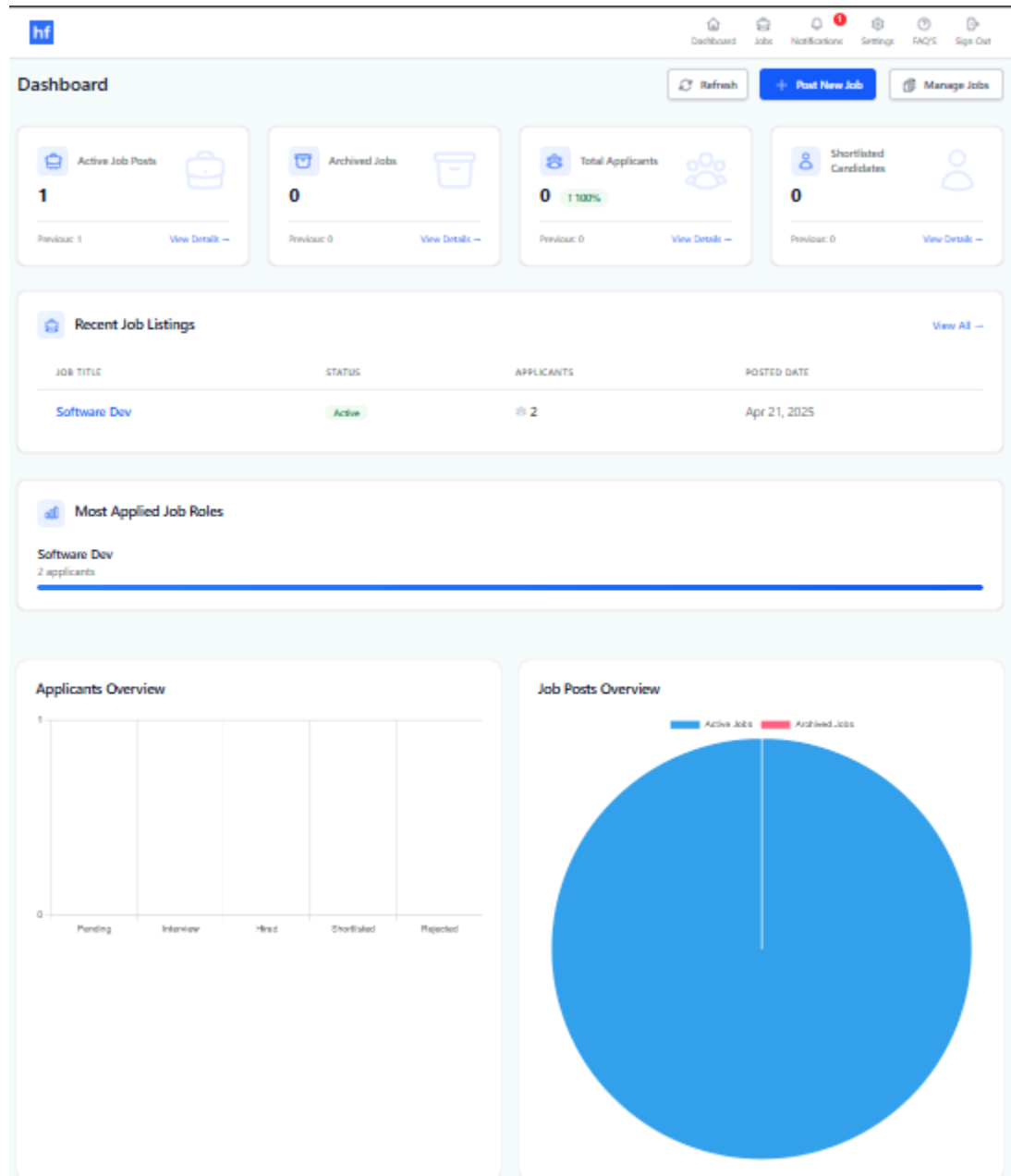
5 HR Dashboard

After clicking the "Sign In" button, you will be directed to the HR Dashboard, where you can view updates and activity related to the job posts you have created. This dashboard provides a centralized overview of your recruitment efforts.

Click the "Refresh" button to manually update the page and view the latest information. The page also auto-updates every minute to ensure you're always seeing the most current data.
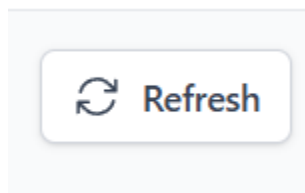

This section displays all currently active job posts that are live and visible to jobseekers. It provides a quick overview of the positions you are actively hiring for.
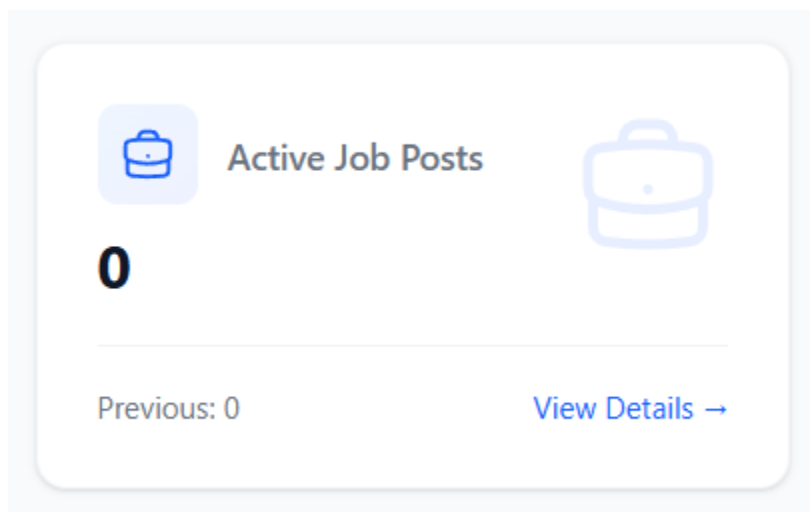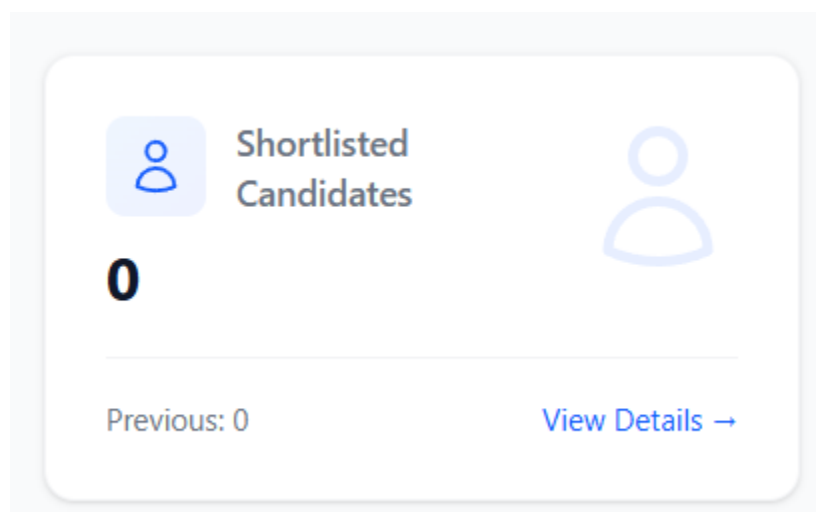

This section allows you to view archived job posts that have been removed from the active listings. Archived jobs are no longer visible to jobseekers but can be accessed for reference or future use.
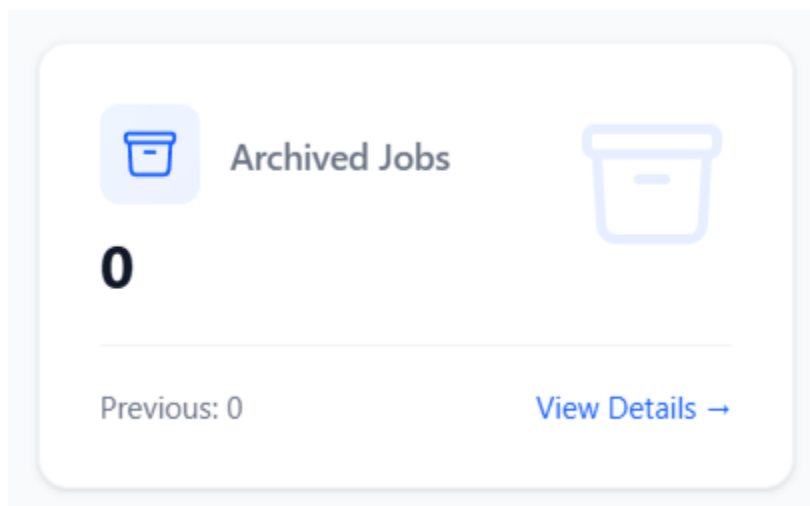
This section shows the total number of applicants for each of the job posts you've created. It provides a quick overview of the applicant pool for each listing.
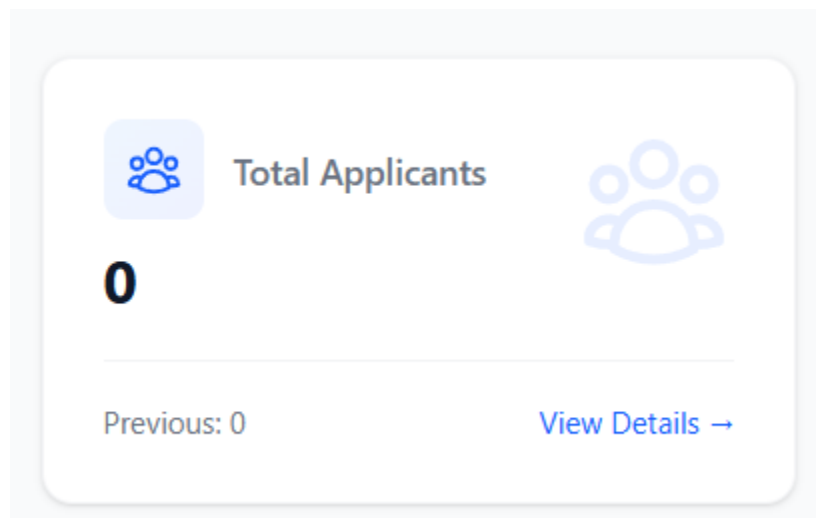

This section displays the shortlisted applicants from the users you have selected. It allows you to easily manage and review the candidates you're considering for further stages of the hiring process.

This section allows you to view all the job postings you've created, along with the total number of applicants for each post, status and posted date.

This section allows you to view all the job postings you've created, along with the total number of applicants for each post. It provides a clear overview of your recruitment efforts and the level of interest in each position.

📊 **Most Applied Job Roles**
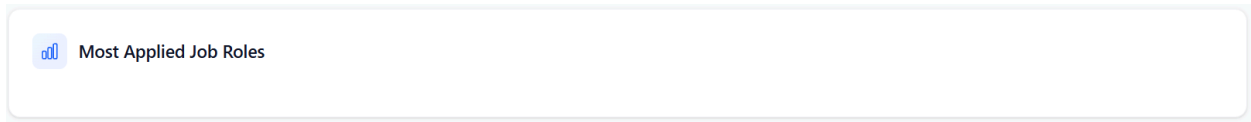
This section provides a visual overview of the applicants and job posts through bar and pie graphs. The bar graph displays data such as the number of applicants per job post, while the pie graph offers insights into the distribution of active jobs and archived jobs, helping you analyze trends easily.

Applicants Overview

1

0

Pending   Interview   Hired   Shortlisted   Rejected

Job Posts Overview

━━ Active Jobs   ━━ Archived Jobs

6   Create Job Post

Click the blue "Post New Job" button to create a new job listing for jobseekers. This will allow you to enter the details of the job post, including the role, qualifications, and other relevant information.
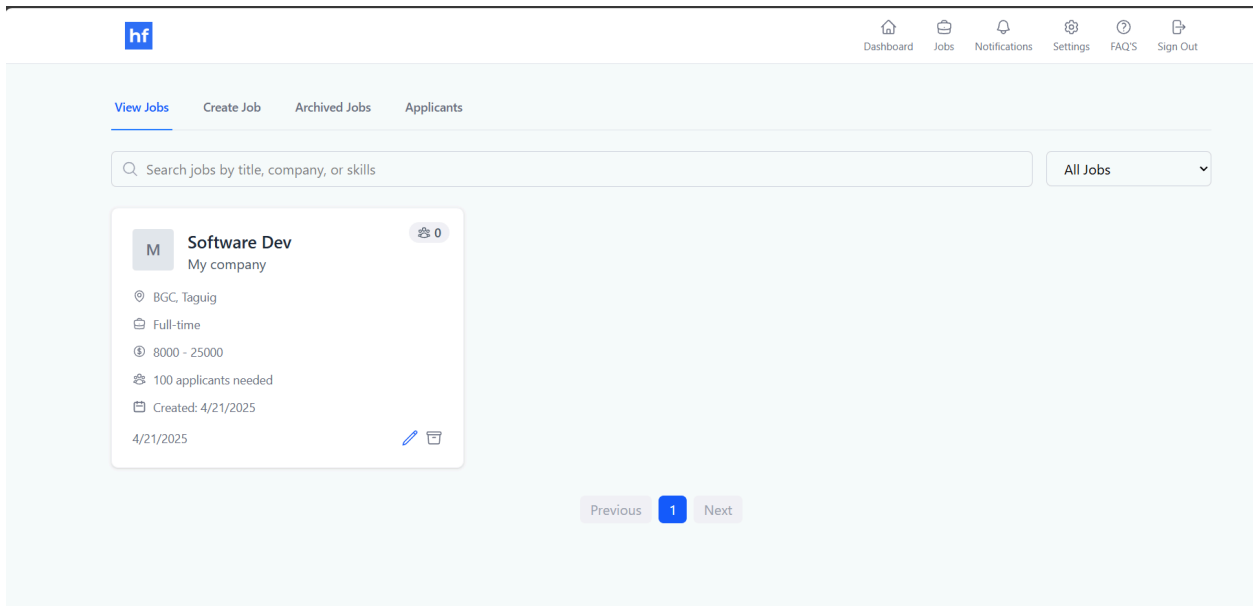
7   Jobs

Click on the "Jobs" on the top right corner of the dashboard.

This section displays all the jobs you have created for jobseekers. It provides an overview of the active job postings you've made, allowing you to manage and track their progress.

Click on the ✎ next to your job post to modify its details according to your preferences. This allows you to update the job description, qualifications, or any other information as needed.

Edit Job Post

Basic Information

Job Title

Software Dev

Company Name

My company

Location

⊙ BGC, Taguig

Employment Type

💼 Full-time ⌄

Salary Range

💲 8000 - 25000

Applicants Needed

👥 100

Company Details

Company Logo

| Choose File | No file chosen |

Accepted file types: JPEG & PNG
Maximum file size: 5MB

Job Description

We are looking for a Computer Engineer to join our team and support

8   Archive

Click on the ⊟ next to your job post to move it to the archived section. This will remove the job post from the active listings while keeping it accessible for future reference.

Archive Job Posting

Are you sure you want to archive this job posting? It will be moved to the archived jobs section.

Cancel   Archive

After archiving a job post it will show up to the "Archived Jobs" section where you can see the jobs that have been archived.

View Jobs	Create Job	**Archived Jobs**	Applicants

🔍 Search jobs by title, company, or skills

Archived Job Postings

M **Software Dev**
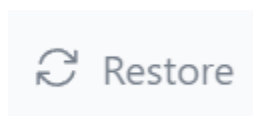My company

📍 BGC, Taguig

💼 Full-time

💲 8000 - 25000

👥 100 applicants needed

🗓 Archived: 4/21/2025

🔄 Restore

You can still restore the archived job post just by clicking on the "Restore" button on the bottom right of the job post.

🔄 Restore

9   Applicants

Click on the "Applicants" button to review the applications submitted by candidates. Here, you can view their resumes, evaluate their responses to screening questions, and decide whether to accept, reject, or shortlist them for an interview. This section helps you manage the entire applicant review process efficiently.

Click on the appropriate buttons to update the applicant's current "Pending" status. You can mark them as "Accepted" to move forward with their application, "Shortlisted for Interview" if they are selected for an interview, or "Rejected" if they are not moving forward in the process.

Click on the "View Resume" button to access and review the applicant's uploaded resume. This allows you to evaluate their qualifications and experience in detail for the position.

Click on the "Evaluate Resume" button to use AI that will analyze the resume and provide a more detailed evaluation. This feature helps you assess the applicant's qualifications, skills, and experience more efficiently.

Applicant Details   **Evaluate Resume**   Screening Questions

Resume-Job Match Evaluator

Analyze how well this candidate's resume matches the job requirements

Evaluating candidate:
dfsdf dfgdfg for position: **Software Dev**

Job Description

Job Title: Software Dev
Company: My company
Location: BGC, Taguig
Employment Type: Full-time
Salary Range: 8000 - 25000

About the Company:
We are looking for a Computer

Resume

✓

Resume loaded: 1745214818914-Ymnwl%20Jan%20Faurillo_Computer%20Science.pdf
You can replace it with another file if needed

Replace File

Click on the "Screening Questions" button to view the applicant's responses to the questions. This helps you assess their suitability for the position based on their answers.

Applicant Details   Evaluate Resume   **Screening Questions**

💬 **Screening Questions**

⊗ **Are you applying for a VISA?**
No

⊗ **Do you have a non-compete clause?**
No

⊗ **Are you a Filipino / dual Filipino citizen?**
No

✓ **Have you been directly employed by this company?**
Yes

⊗ **Do you have relatives working with this company, any of the company subsidiaries, or other companies?**
No

✓ Do you have a bond with your current employer?

10   Notifications

      Click on the "Notifications" button to view updates about new applicants for the job posts you've created. This will alert you whenever a new applicant has submitted their application.
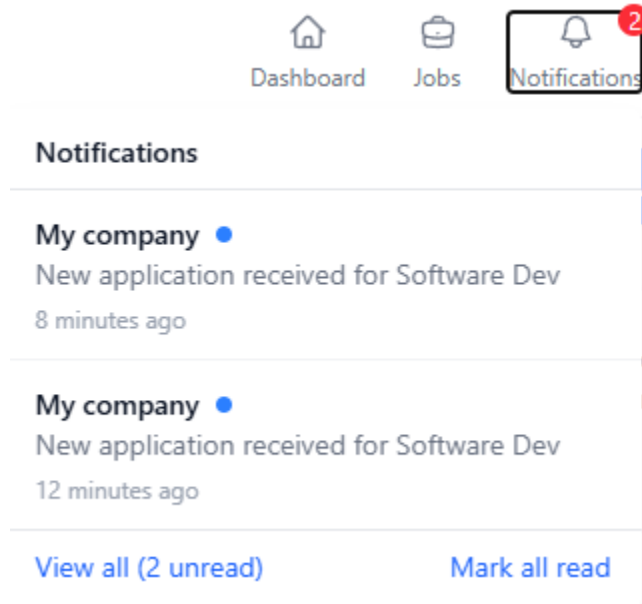
11 Settings

Click the "Settings" button located at the top right corner of the dashboard to access your Account Settings. Here, you can manage your Profile Settings, update your Email, and change your Password as needed.

In the "Profile Settings" section, you can customize your username according to your preference and view the email address currently associated with your account. After making any changes, click "Save Changes" to apply and keep your updated username.
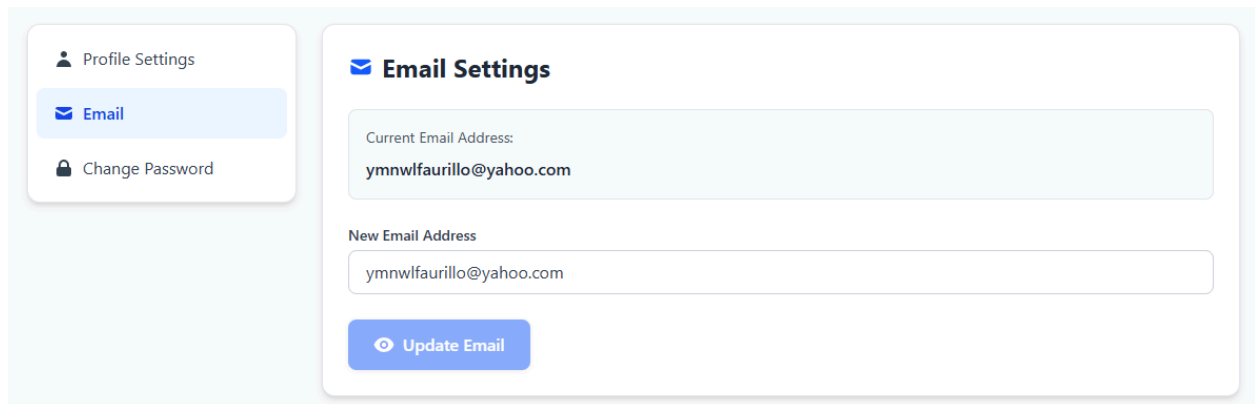
Clicking the "Email" tab will display the current email address associated with your account. You can update it by entering your preferred email address, then clicking the "Update Email" button to save the changes.
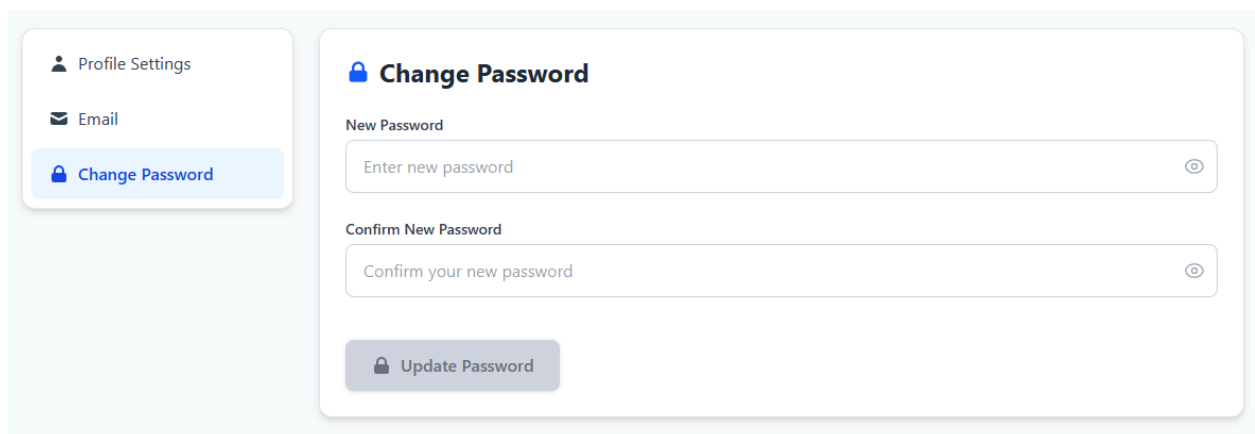
Clicking the "Change Password" option will display the password update interface. Here, you can enter your new password and retype it to confirm. Once completed, click the "Update Password" button to successfully change your account password.

12   FAQs

Click the "FAQs" button located in the top right corner of the dashboard to access the user manual and a list of frequently asked questions. This section provides helpful guidance on how to navigate and use the website effectively.
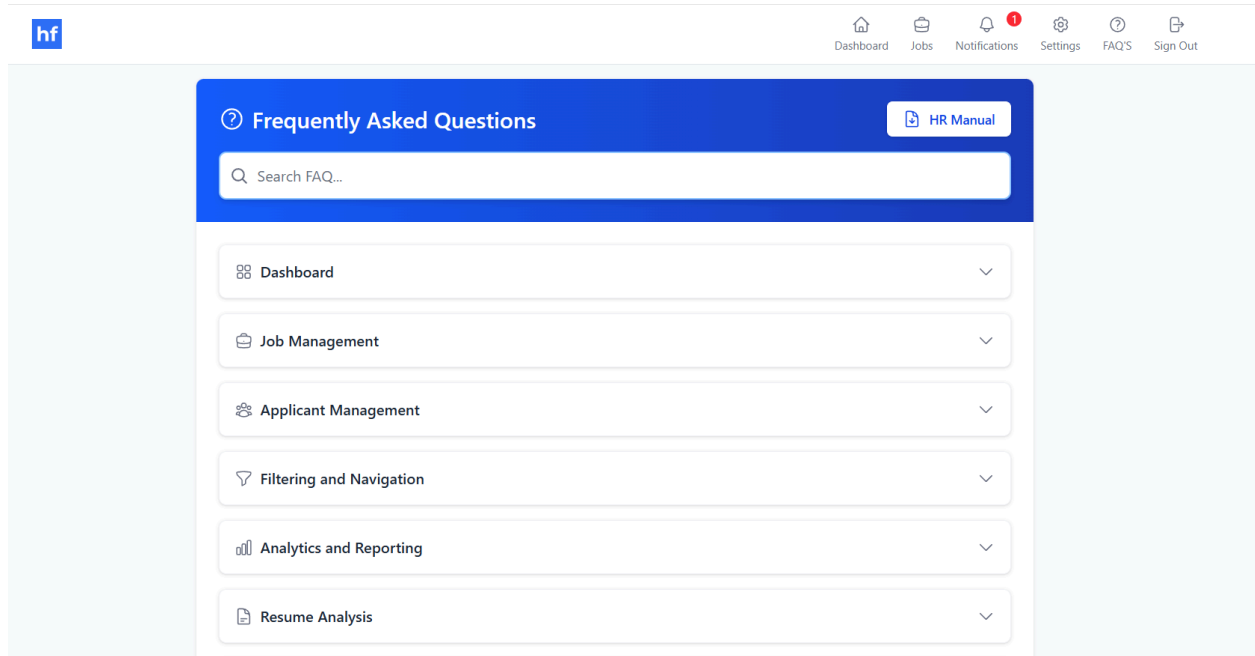
You can use the search bar to quickly find answers to your questions. Once you find a relevant topic, click the dropdown button to reveal sub-sections that provide more detailed and specific information.

⑦ Frequently Asked Questions

[↓ HR Manual]

🔍 Search FAQ...

🔲 Dashboard   ⌃

How do I read the dashboard metrics?   ⌄

How do I use the job statistics cards?   ⌄

What information is shown in the Recent Job Listings?   ⌄

How can I see the most popular job roles?   ⌄

How do I navigate to different sections from the dashboard?   ⌄

🔲 Dashboard   ⌃

How do I read the dashboard metrics?   ⌃

The dashboard displays key metrics including active jobs, archived jobs, total applicants, and shortlisted candidates. Clicking on any metric card will take you directly to the relevant filtered view.

13 Signout

Click on the "Signout button" on the top right corner of the dashboard to logout from your current account

After clicking the "Sign Out" button, an alert will appear asking you to confirm your action. To proceed with signing out, simply click the "Sign Out" button in the alert to log out of your account.