

hrPredict User Guide



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1. Introduction

Welcome to the **hrPredict Web Application!** This guide is designed to help you navigate the system, input employee details, and interpret predictions generated by advanced machine learning model.

With **hrPredict**, you can efficiently assess employee retention risks, allowing HR professionals and managers to make data-driven decisions to improve workforce stability.

What You'll Learn in This Guide:

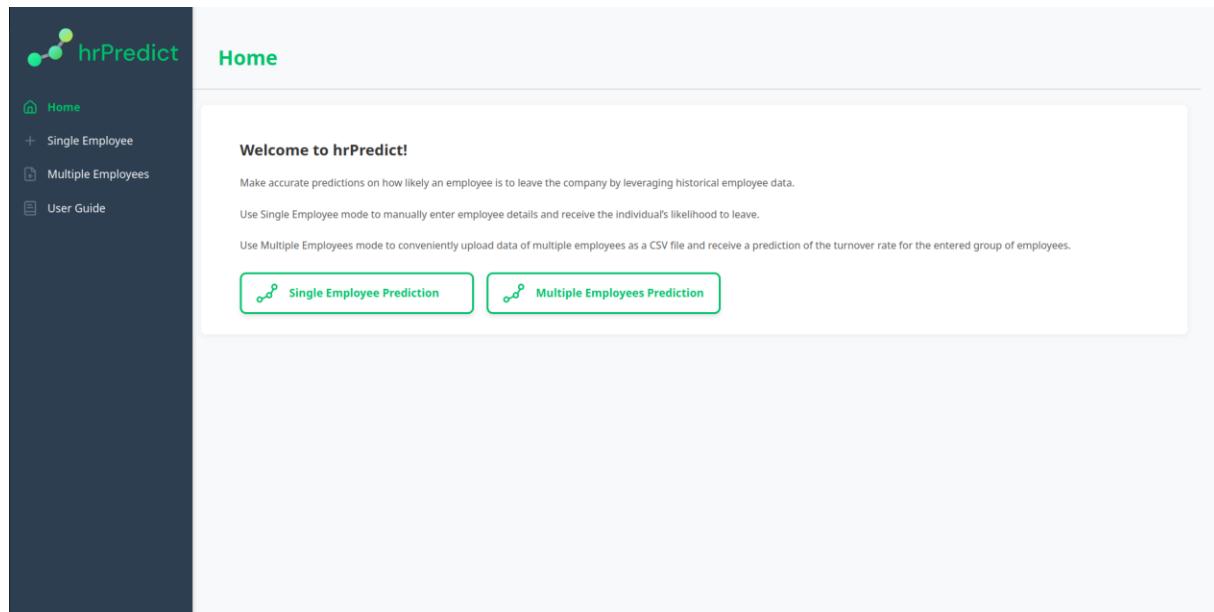
- ✓ **How to use the interface** – Navigate through Single and Multiple Employee Prediction modes.
- ✓ **Troubleshooting assistance** – Find solutions to common issues you may encounter.
- ✓ **Support contact information** – Get help when needed.

Whether you are analyzing an individual employee or processing predictions for an entire team, this guide will walk you through every step to ensure a smooth experience. Let's get started!

2. Navigating the User Interface

1. Home Page

Upon accessing the application, you will be greeted with the “Home” page.



The "Home" page

At the bottom of the **Home** page, you can choose between **Single Employee Prediction** and **Multiple Employees Prediction**:

- **Single Employee Prediction** allows you to manually enter details for one employee at a time.
- **Multiple Employees Prediction** enables you to upload a CSV file and process predictions for multiple employees simultaneously.

2. Single employee page

The “Single employee” page

On the **Single employee** page, you will find an input form where you need to enter the following employee data:

Field	Description
Department	Choose between the list of departments.
Salary	Choose between “low”, “medium” and “high”.
Years spent in company	Enter the number of years the employee has been with the company.
Satisfaction Level	Enter a value between 0 and 1 representing satisfaction.
Last Evaluation Score	Enter a number between 0 and 1 for the employee's last performance score.

Number of Projects	Enter the number of projects the employee has participated in.
Promoted in the Last 5 years	Choose “Yes” or “No”.
Average Monthly Hours Spent	Enter the average hours worked per month.
Work accident occurred	Choose “Yes” or “No”.

The filled form of “Single employee” page

How to Make a Prediction:

After filling in all the required fields (make sure you haven't left any of them empty or out of the range of the guidelines before submitting), click the “Predict Retention” button. The system will process the input and display the probability of turnover using the model.

The screenshot shows the 'hrPredict' application interface. On the left, a dark sidebar menu includes 'Home', '+ Single Employee' (selected), 'Multiple Employees', and 'User Guide'. The main content area has a header 'Entered employee data' and a form with the following fields:

Department	Salary
sales	medium
Satisfaction Level	Latest Evaluation Score
0.4	0.6
Number of Projects	Average Monthly Hours
5	200
Promoted in Last 5 Years	Work Accident Occurred
No	No
Years Spent in Company	
2	

Prediction Result
Based on the values reported, the likelihood of the employee leaving the company is:
6.15%

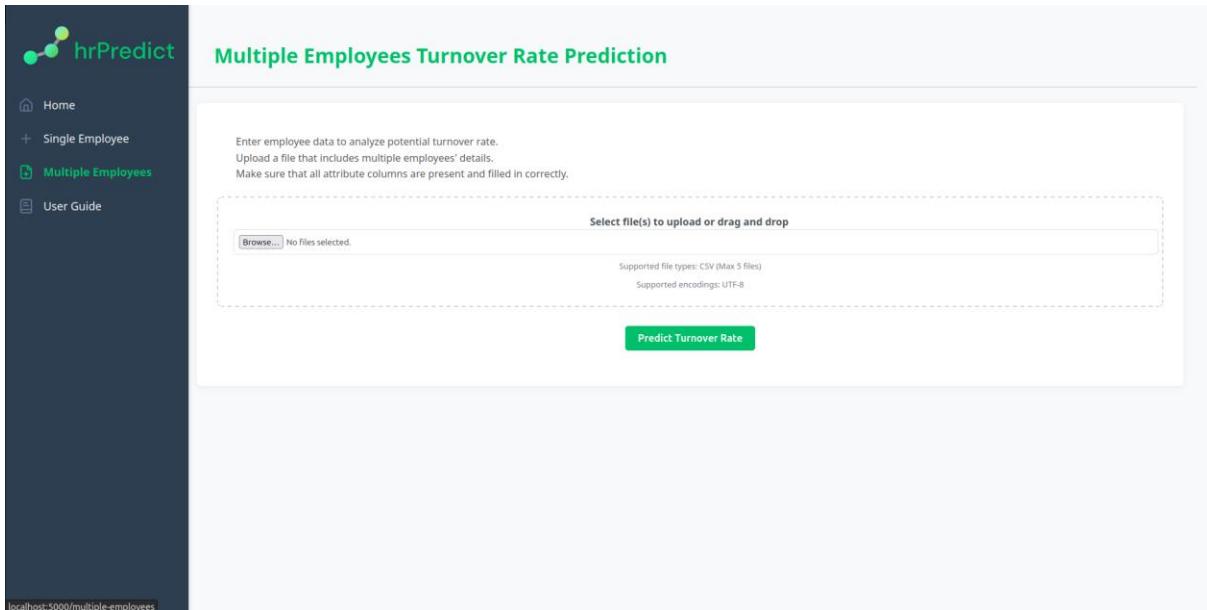
[New Prediction](#)

The “Result” page

Once the prediction is processed, you will see a results message showing the probability of turnover according to the model.

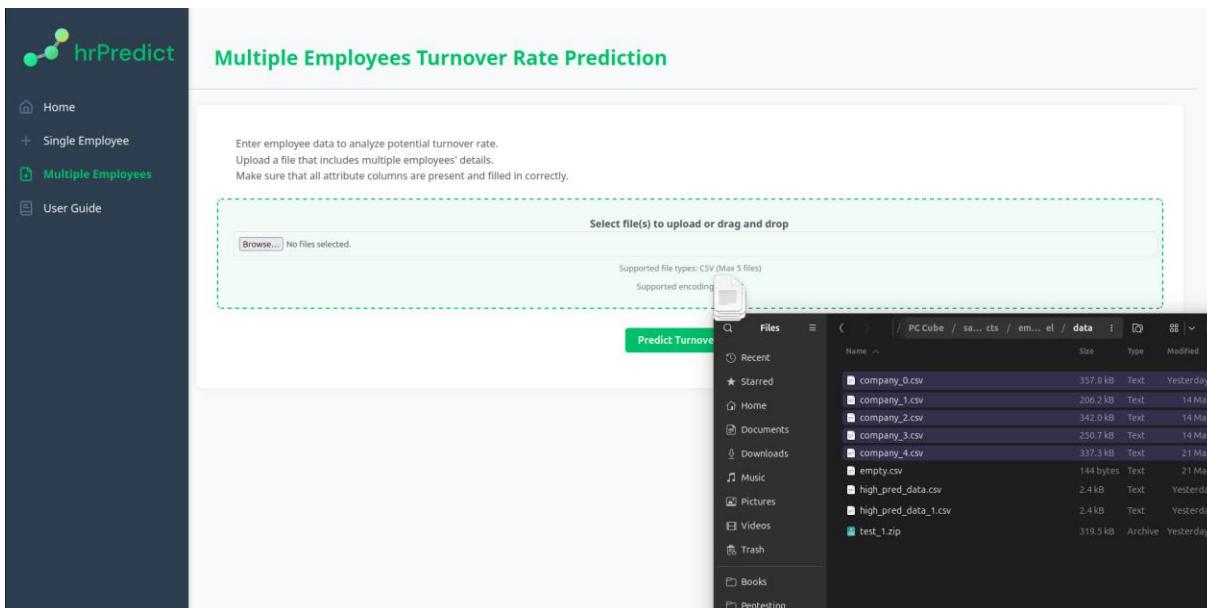
For making a new prediction, please click on the “New Prediction” on the bottom of the page or you can also either change to “Multiple Employee” prediction or go to the “Home” page by choosing them on the left side of the page.

3. Multiple Employees page



The screenshot shows the 'Multiple Employees Turnover Rate Prediction' page. On the left is a sidebar with the 'hrPredict' logo and links to Home, Single Employee, Multiple Employees (which is highlighted in green), and User Guide. The main area has a title 'Multiple Employees Turnover Rate Prediction'. Below it is a text box with instructions: 'Enter employee data to analyze potential turnover rate. Upload a file that includes multiple employees' details. Make sure that all attribute columns are present and filled in correctly.' A dashed box encloses a file upload input field with the placeholder 'Select file(s) to upload or drag and drop'. Below the input field are two lines of text: 'Supported file types: CSV (Max 5 files)' and 'Supported encodings: UTF-8'. At the bottom is a green 'Predict Turnover Rate' button.

The “Multiple Employees” page



This screenshot is identical to the one above, showing the 'Multiple Employees Turnover Rate Prediction' page. However, a file browser window is overlaid on the right side of the page. The browser shows a list of files in a 'Files' folder, including 'company_0.csv', 'company_1.csv', 'company_2.csv', 'company_3.csv', 'company_4.csv', 'empty.csv', 'high_pred_data.csv', 'high_pred_data_1.csv', and 'test_1.zip'. The browser interface includes a search bar, navigation buttons, and columns for Name, Size, Type, and Modified.

The “Multiple Employees” page with drag and drop

In Multiple Employees page you can upload a “.csv” file containing employee data. Do **not** upload more than **5 files** at a time and each file shouldn't be more than **16MB** in size.

In the “.csv” file, **all** the columns named below **must** exist.

- ✓ "satisfaction_level": A value between 0 and 1 representing satisfaction.
- ✓ "last_evaluation": A number between 0 and 1 for the employee's last performance score.
- ✓ "number_project": The number of projects the employee has participated
- ✓ "average_montly_hours": The average of hours employee worked per month.
- ✓ "time_spend_company": The number of years the employee has been in the company.
- ✓ "Work_accident": If a work-related accident has occurred to the employee.
- ✓ "promotion_last_5years": If the employee has been promoted.
- ✓ "sales": Which department the employee is a part of.
- ✓ "salary": Relative representation of the employee's salary within the choices of "low", "medium" and "high".

There are two methods to upload your file.

- Choose the file by browsing it through your storage.

- Drag your file from an external source in your desktop and drop it into the assigned area.

After choosing a “.csv” file, you can click “Predict Turnover Rate” to generate the result page.

The screenshot shows the hrPredict application interface. On the left is a dark sidebar with a green logo and the text: Home, Single Employee, Multiple Employees, and User Guide. The main content area has a yellow header bar titled "Data Validation Warnings" which says "company_0.csv" and "Filled 1 missing values in 'salary' with default value low. Predictions were made using default values for missing data.". Below this is a section titled "Prediction Results" with three entries:

- Turnover rate for company_0.csv: **7.79%**. Buttons: Show Table, Download CSV.
- Turnover rate for company_1.csv: **7.27%**. Buttons: Show Table, Download CSV.
- Turnover rate for company_2.csv: (no value shown).

The “Result” page

The results page will provide a general prediction based on the uploaded data. If you want to see individual predictions:

- Click **Review Table with Predictions** to view predictions in a table within the application.
- Download a new .csv file with predictions appended in the last column.

The screenshot shows the 'hrPredict' web application interface. On the left, a dark sidebar menu includes 'Home', 'Single Employee', 'Multiple Employees' (selected), and 'User Guide'. The main content area has a yellow header bar stating 'Predictions were made using average values for missing data.' Below this is a section titled 'Prediction Results' with the subtitle 'Turnover rate for company_0.csv: 7.79%'. It features 'Hide Table' and 'Download CSV' buttons. A table titled 'Review Table for company_0.csv' is displayed, showing 9 rows of data with columns for ID, Satisfaction Level, Last Evaluation, Number of Projects, Average Monthly Hours, Years Spent in Company, Work Accident, Promoted in Last 5 Years, Department, Salary, and Probability. The last row (ID 9) has a pink background and shows a probability of 89.60%.

ID	Satisfaction Level	Last Evaluation	Number of Projects	Average Monthly Hours	Years Spent in Company	Work Accident	Promoted in Last 5 Years	Department	Salary	Probability
1	0.81	0.42	4	118	3	No	No	sales	low	2.50%
2	0.28	0.86	2	203	3	Yes	No	marketing	high	2.50%
3	0.17	0.71	5	182	3	Yes	No	sales	medium	4.85%
4	0.49	0.92	4	282	2	No	No	marketing	low	2.50%
5	0.93	0.64	3	263	3	No	No	sales	medium	0.00%
6	0.83	0.43	7	141	3	No	No	sales	medium	89.60%
7	0.24	0.58	4	193	4	No	No	it	low	6.15%
8	0.86	0.77	3	181	3	No	No	sales	low	0.17%
9	0.55	0.40	5	202	4	No	No	sales	high	2.50%

The "Review Table with Predictions" page

For making a new prediction, please click on the “New Prediction” on the bottom of the page or you can also either change to “Single Employee” prediction or go to the “Home” page by choosing them on the left side of the page.

3. Understanding the Prediction Results

1. Single Employee Results

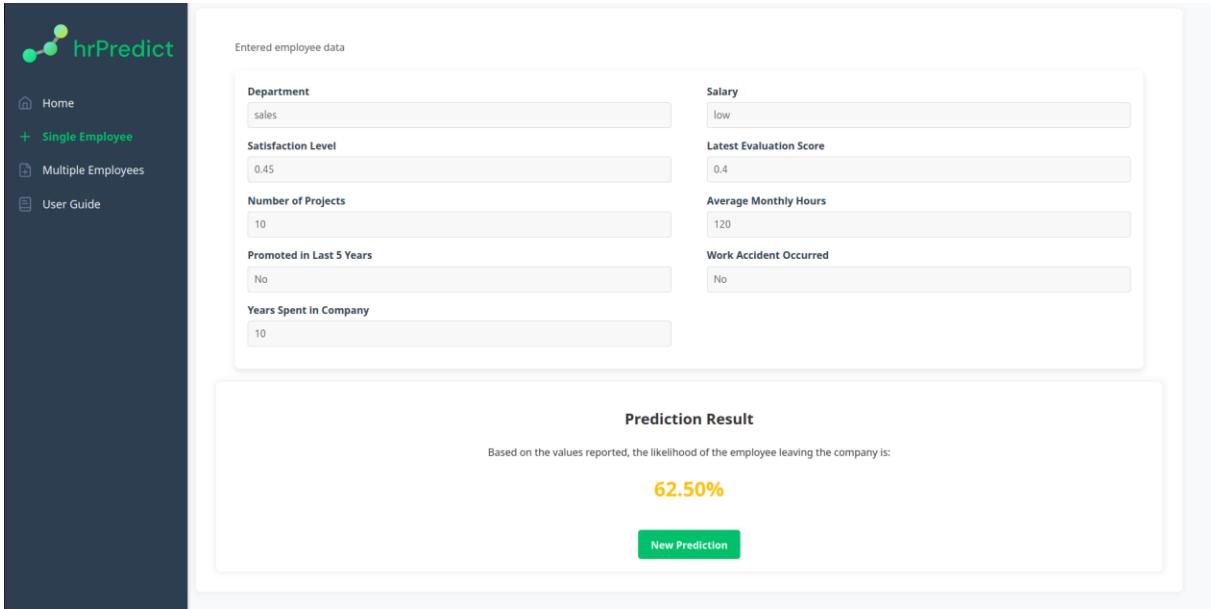
Once the prediction is processed, you will see a results table displaying the probability of turnover according to the model:

The screenshot shows the 'hrPredict' application interface. On the left, a sidebar menu includes 'Home', '+ Single Employee' (which is selected and highlighted in green), 'Multiple Employees', and 'User Guide'. The main content area is titled 'Single Employee' and displays a form with the following data:

Department	Salary
IT	low
Satisfaction Level	Latest Evaluation Score
0.3	0.7
Number of Projects	Average Monthly Hours
10	120
Promoted in Last 5 Years	Work Accident Occurred
No	Yes
Years Spent in Company	
10	

Below the form, a section titled 'Prediction Result' states: 'Based on the values reported, the likelihood of the employee leaving the company is: **95.00%**'. A 'Recommendations' box suggests focusing on satisfaction levels and provides a link: 'It seems that this employee is not satisfied with their job, as their satisfaction level is lower than expected.' A 'New Prediction' button is located at the bottom right.

The "Result" page for those who are very likely to leave the company



The screenshot shows the "Result" page for an employee. The sidebar on the left has options: Home, Single Employee (selected), Multiple Employees, and User Guide. The main area has a title "Entered employee data" and a table of input fields:

Department	sales	Salary	low
Satisfaction Level	0.45	Latest Evaluation Score	0.4
Number of Projects	10	Average Monthly Hours	120
Promoted in Last 5 Years	No	Work Accident Occurred	No
Years Spent in Company	10		

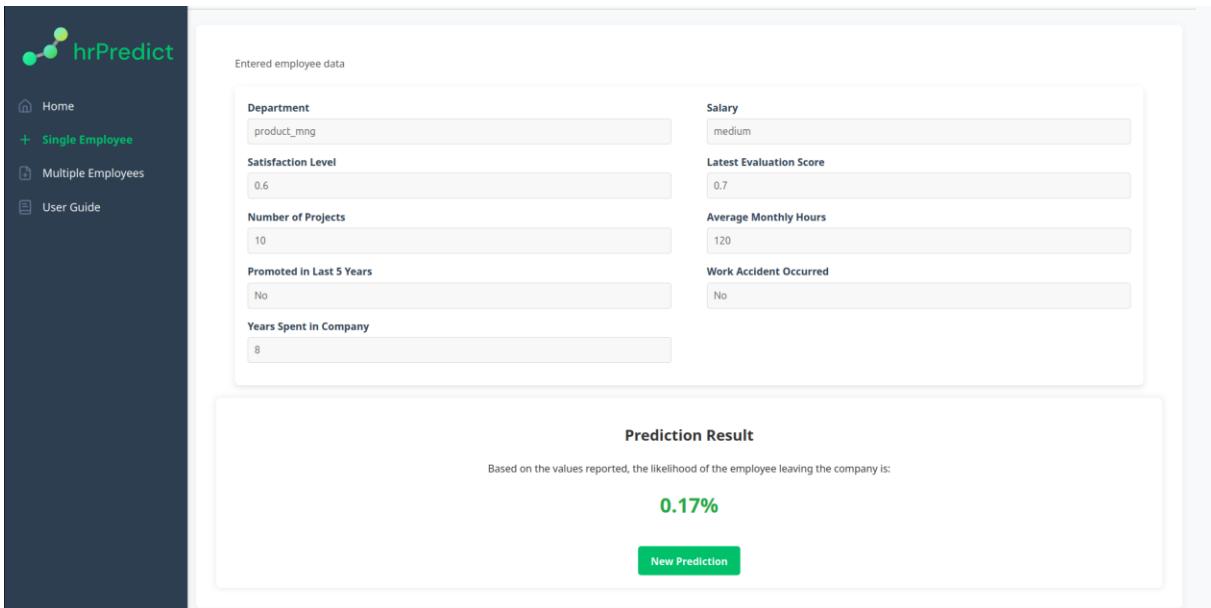
Prediction Result

Based on the values reported, the likelihood of the employee leaving the company is:

62.50%

[New Prediction](#)

The "Result" page for those who are not likely to leave the company



The screenshot shows the "Result" page for an employee. The sidebar on the left has options: Home, Single Employee (selected), Multiple Employees, and User Guide. The main area has a title "Entered employee data" and a table of input fields:

Department	product_mng	Salary	medium
Satisfaction Level	0.6	Latest Evaluation Score	0.7
Number of Projects	10	Average Monthly Hours	120
Promoted in Last 5 Years	No	Work Accident Occurred	No
Years Spent in Company	8		

Prediction Result

Based on the values reported, the likelihood of the employee leaving the company is:

0.17%

[New Prediction](#)

The "Result" page for those who are very likely to not leave the company

Once the prediction is processed, you will see a results message showing the probability of turnover according to the model. For those who have the probability over **67%** the color of the result will be **RED** and for those who have the probability between **66% and 34%** it will be displayed in **ORANGE** for those who have the probability under **34%** the percentage are shown in **GREEN**.

2. Multiple Employees Results

The screenshot shows the hrPredict application interface. On the left is a dark sidebar with a logo and navigation links: Home, Single Employee, Multiple Employees (which is selected and highlighted in green), and User Guide. The main content area has a yellow header bar titled "Data Validation Warnings" for "high_pred_data.csv". It lists one row removed due to invalid salary values. Below this is a white section titled "Prediction Results" showing a turnover rate of 66.67%. There are "Show Table" and "Download CSV" buttons. A "Recommendations" section provides insights: many employees are unsatisfied with their job, have high evaluation scores, and work long hours. A "New Prediction" button is at the bottom.

The “Multiple Employees Result” page

In here we provided you with two different views of the data:

1. Review Table with Predictions

By clicking the “Show Table” button, you will see the data in a table within the page.

The “Result” page showing the results in the app

The screenshot shows the 'hrPredict' web application interface. On the left is a dark sidebar with a green logo and navigation links: Home, Single Employee, Multiple Employees (selected), and User Guide. The main area has a title 'Prediction Results' and a message 'Turnover rate for high_pred_data.csv: 66.67%'. Below this are two buttons: 'Hide Table' and 'Download CSV'. A link 'Review Table for high_pred_data.csv' is present. Underneath are three checkboxes for 'Low Risk', 'Medium Risk', and 'High Risk'. The main content is a table with 10 rows of employee data. The columns are: ID, Satisfaction Level, Last Evaluation, Number of Projects, Average Monthly Hours, Years Spent in Company, Work Accident, Promoted in Last 5 Years, Department, Salary, and Probability. The last column shows turnover probabilities: 95.00%, 95.00%, 6.15%, 6.15%, 100.00%, 6.15%, 7.89%, and 95.00%.

ID	Satisfaction Level	Last Evaluation	Number of Projects	Average Monthly Hours	Years Spent in Company	Work Accident	Promoted in Last 5 Years	Department	Salary	Probability
2	0.17	0.91	4	310	3	No	No	support	medium	95.00%
3	0.18	1.00	3	290	2	No	No	accounting	low	95.00%
4	0.16	0.85	5	289	3	No	No	sales	high	6.15%
5	0.13	0.94	3	288	3	No	No	it	low	6.15%
6	0.18	0.91	6	286	2	Yes	No	technical	medium	6.15%
7	0.11	0.93	6	285	3	No	No	sales	medium	100.00%
8	0.16	0.96	6	282	2	Yes	No	technical	low	6.15%
9	0.18	0.95	4	279	2	No	No	sales	low	7.89%
10	0.19	0.98	4	304	5	No	No	randd	low	95.00%

The total “Employee Turnover Rate” is shown in a message above the table and the “Employee Turnover Rate” of each employee is on the column “Probability” with the other data in the uploaded file(s).

2. Download Table with Predictions

By choosing "Download CSV" option you can download a “.csv” file with the predicted probability added in a new column called “Probability”.

The screenshot shows a Microsoft Excel spreadsheet with a single sheet named 'predicted_results (2)'. The columns are labeled A through O. The data consists of 19 rows of employee information, including satisfaction levels, evaluation scores, project counts, average monthly hours, years spent at the company, work accidents, promotion history, department, salary, and the newly added 'probability' column. The 'probability' column is highlighted with a red border. The values in this column range from 0.987067 to 0.998067.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	satisfisfaction	last_evalu	number_projects	average_nr_time_spen	Work_acci	promotion	departmert	salary		probability					
2	0.38	0.53	2	157	3	0	0 sales	low		0.998067					
3	0.8	0.86	5	262	6	0	0 sales	medium		0.932762					
4	0.11	0.88	7	272	4	0	0 sales	medium		0.999409					
5	0.72	0.87	5	223	5	0	0 sales	low		0.940156					
6	0.37	0.52	2	159	3	0	0 sales	low		0.991873					
7	0.41	0.5	2	153	3	0	0 sales	low		0.989711					
8	0.1	0.77	6	247	4	0	0 sales	low		0.995176					
9	0.92	0.85	5	259	5	0	0 sales	low		0.969873					
10	0.89	1	5	224	5	0	0 sales	low		0.998435					
11	0.42	0.53	2	142	3	0	0 sales	low		0.996878					
12	0.45	0.54	2	135	3	0	0 sales	low		0.999031					
13	0.11	0.81	6	305	4	0	0 sales	low		0.999628					
14	0.84	0.92	4	234	5	0	0 sales	low		0.990938					
15	0.41	0.55	2	148	3	0	0 sales	low		0.996163					
16	0.36	0.56	2	137	3	0	0 sales	low		0.998055					
17	0.38	0.54	2	143	3	0	0 sales	low		0.999029					
18	0.45	0.47	2	160	3	0	0 sales	low		0.998011					
19	0.78	0.99	4	255	6	0	0 sales	low		0.987067					

“.csv” file created by the app

As you can see in the picture, there is a new column named “probability” added at the end. It contains the “Employee Turnover Rate” for each employee.

4. Troubleshooting & FAQs

If you meet any issues while using the application, refer to the following troubleshooting tips:

Issue	Solution
<i>Form Not Submitting</i>	Ensure all required fields are filled correctly within the range of the guidelines.
<i>File Not Uploading</i>	Make sure the size of the file is lower than 10MB.
<i>Uploading Screen remained for a long time.</i>	Refresh the page and try again.
<i>I can't upload all my files</i>	Only 5 files can be uploaded at once.
<i>Prediction Results Not Showing</i>	Check if the server is running properly.
<i>Incorrect Data Entered</i>	Reload the form by refreshing the page and enter values in the correct format.

5. Contact Support

For further assistance, contact the technical support team at:

- Website: [Contact us page](#)
- Email: info@pccube.com
- Phone: [+39 388 1756950](tel:+393881756950)