

Promotion Modeling

Machine Learning



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One AI Client Enablement



12 September 2024

Topics Covered

- Overview & use cases of a promotion classification model
- Key considerations before the model-building process
- Step-by-step instructions for building a promotion classification model in One AI using the recipe
- Insights to be analyzed

Learning Outcomes

You will:

- Understand the basics of a promotion classification model, including its purpose, structure, & key use cases
- Identify important considerations before building the model, such as ethical use of predictions & data quality
- Gain hands-on experience building a promotion classification model in One AI, using the recipe
- Learn to interpret the model's insights, uncovering key drivers of promotion outcomes & applying those insights to improve decision-making & strategies



Overview & Use Cases



Promotion Model Overview

- Predicts the likelihood of an employee being promoted within a selected period of time
 - Uses attributes such as employee demographics, job satisfaction, performance metrics, engagement, & compensation to predict risk level
 - Binary classification
 - 2 possible outcomes: promoted or not promoted
 - Model instances are individual employees identified by an id from the employee table
- Highlights top factors both driving employees to be promoted and passed over

People Analytics Use Cases

- Equity & Fairness
- Succession Planning
- Recruiting Strategy Alignment
- Ensuring Merit-Based Promotions



Considerations Before Model Building



Considerations Before Building

- **Ethical** use of model results
- Bias & fairness
- Interpretability & explainability
- Data quality & availability



How to Build in One AI





Insights to be Analyzed



Insights

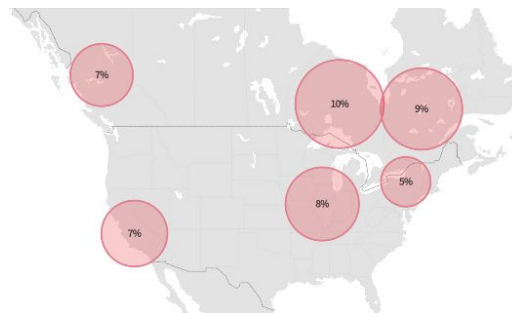
- Predictions in the Results Explorer

run_id	dataset_id	label_prediction
171e91cc-b609-4aa2-af1e-af688c54a0a1	00045984	No Promotion
171e91cc-b609-4aa2-af1e-af688c54a0a1	00025727	No Promotion
171e91cc-b609-4aa2-af1e-af688c54a0a1	00033881	No Promotion

- Individual insights & aggregated insights

Feature Name	Feature Type	Directional Impact *	Value	Mean Value	Explanation
Engagement Rounded: (scaled)	Numeric	-0.0841	0.8	0.5981	Legal's Engagement Rounded: (scaled) value of 0.8000 is greater than the mean and contributes 0.0841 against the prediction of him promoting in the next year
Salary Percent Change: (scaled)	Numeric	-0.0701	0.3539	0.3756	Legal 's Salary Percent Change: (scaled) value of 0.3539 is less than the mean and contributes 0.0701 against the prediction of him promoting in the next year

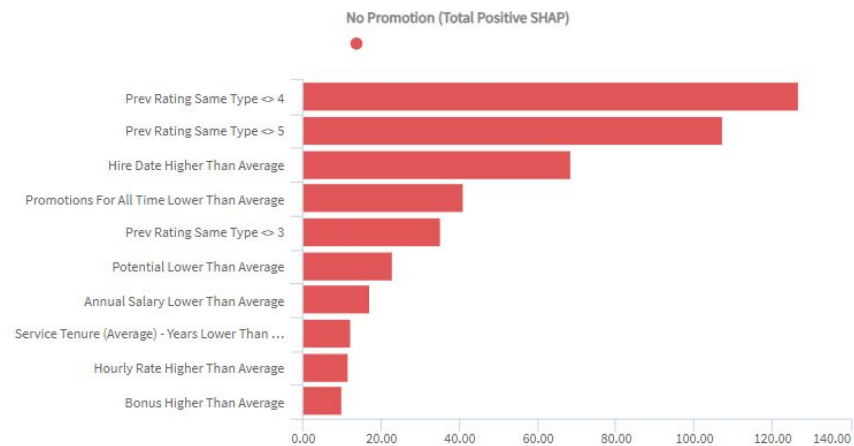
- Geospatial visuals
- Correlation data from the EDA report



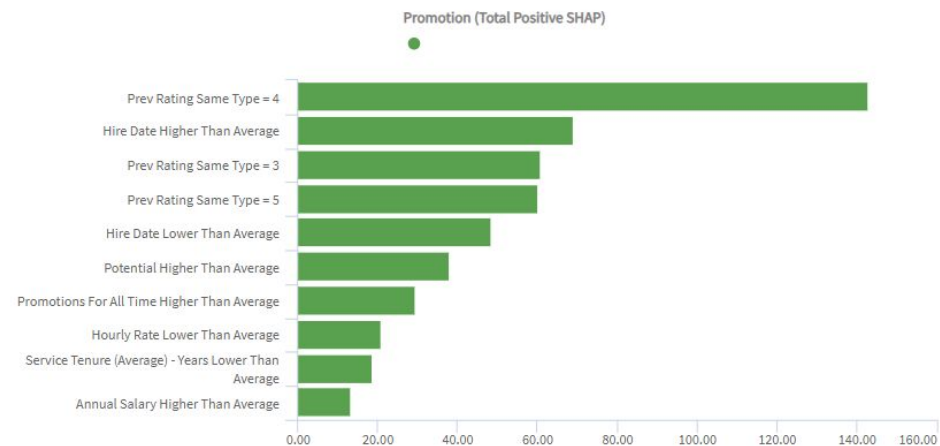
Drivers & Directionality

- Drivers for **both** classes (No Promotion & Promotion)

Top Drivers of No Promotion

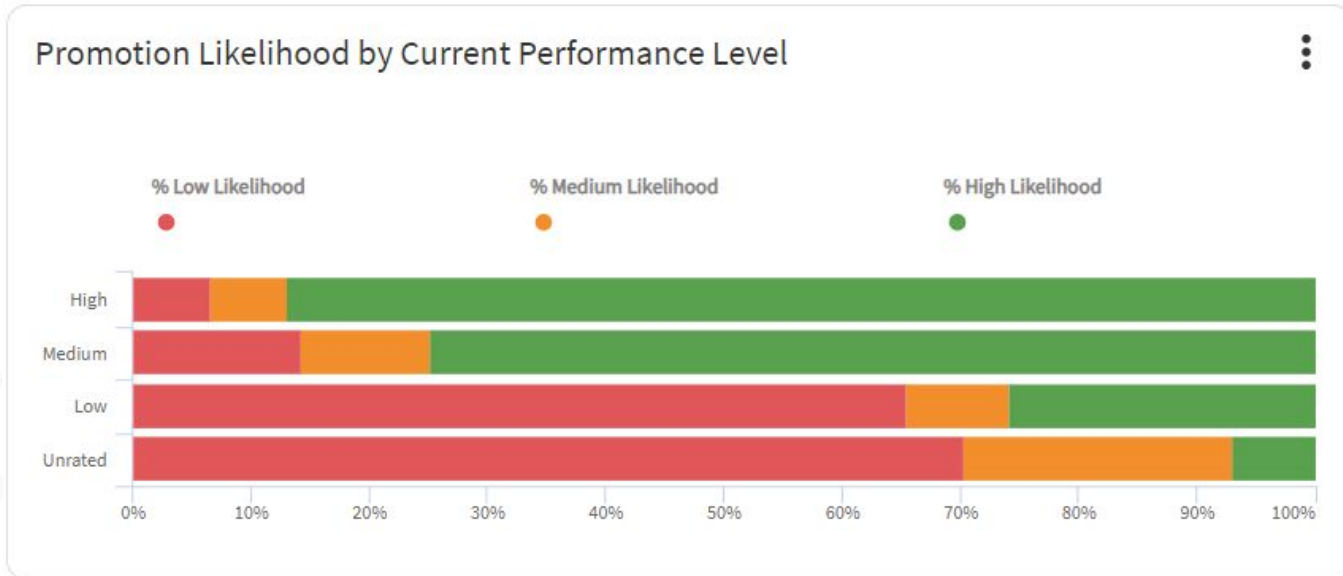


Top Drivers of Promotion



Likelihood groupings

- Promotion likelihood by groupings within your model population



Insights for Individuals

- Insights for individual employees within your model population

Predicted Likelihood of Promotion

Person (Predictions): ✓ Jason Clements - 00006980

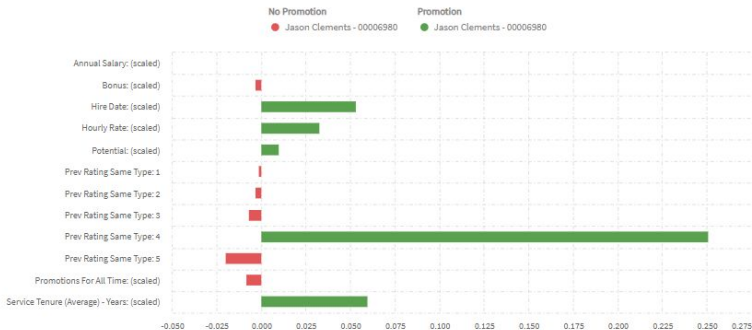
Person (Predictions)	Predicted Likelihood of Promotion
Jason Clements - 00006980	95%

Performance Rating History

Performance Rating	Prev Performance Rating	Manager Performance Rating	Performance Review Occurrences	Review Date
High	High	Unrated	1.00	2021-01-01
High	Unrated	Unrated	1.00	2020-01-01
Medium	High	Unrated	1.00	2022-01-01

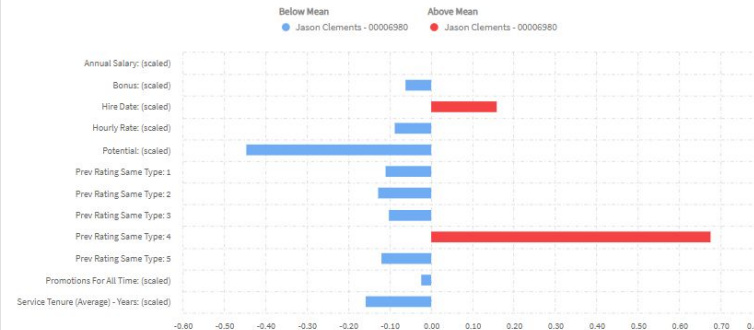
Feature Impacts on Prediction for the Selected Person

Person (Predictions): ✓ Jason Clements - 00006980



Feature Value Difference from Mean for the Selected Person

Person (Predictions): ✓ Jason Clements - 00006980



By-Name Lists

- By-name lists of folks predicted to be promoted (or not promoted)

High Likelihood of Promotion

Org Unit	Time Periods	Full Name	Associate ID	Job Title	Gender	Manager	Job Level
Quality Assurance	2024-09-09	Bret Scotia	00038644	Field Data Technician	Male	Rowen Lawson	Associate
Quality Assurance	2024-09-09	Nahla Alley	00030972	Software Systems Engineer	Female	Ainsley Lacy	Associate
Quality Assurance	2024-09-09	Vaughn Cornett	00030440	Systems Engineer	Male	Laila Courtenay	Associate
Quality Assurance	2024-09-09	Katelynn Sprague	00012195	Linux Systems Engineer	Male	Edith Jacob	Intermediate Staff
Quality Assurance	2024-09-09	Angelina Mack	00013912	Linux Systems Engineer	Female	Elliana Dickerson	Intermediate Staff
Quality Assurance	2024-09-09	Alena Floyd	00013749	Systems Engineer	Female	Zane Shirley	Senior Staff



Thanks for watching!

