HR Analytics

Predicting Job Change for Data Scientists

Project Goals

Assist the HR department to identify candidates which are likely to accept a job offer.

This helps reduce the cost and time invested into of candidates.

The overall will be to provide the HR department with actionable intelligence to allow them to focus on the most likely candidates.

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Features:

- Gender
- Major
- Education Level
- Current Company
- City
- Last Job Duration
- Relevant Experience
- Work Experience
- Enrolled courses
- Training Hours

Target

- Yes/No (Looking for new job)

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

01

EDA

Understanding the targets

>20000
Candidates

Big numbers catch your
audience's attention easily

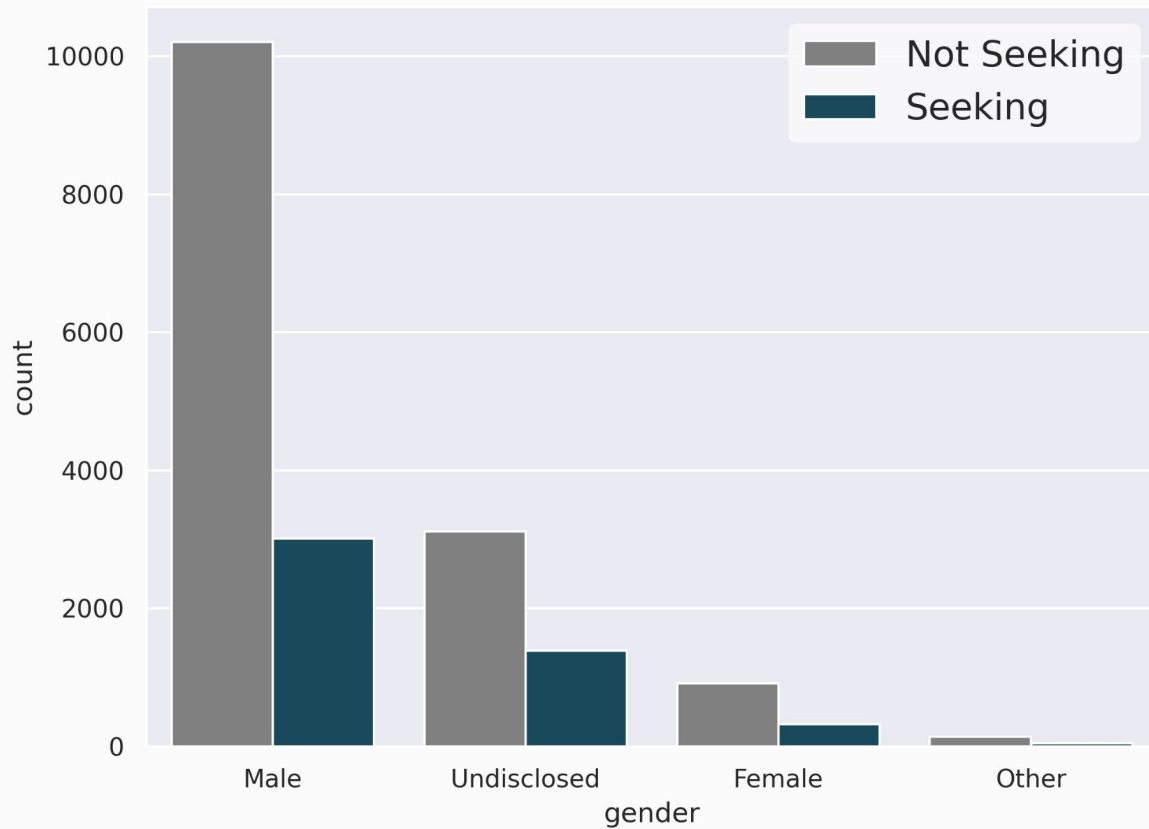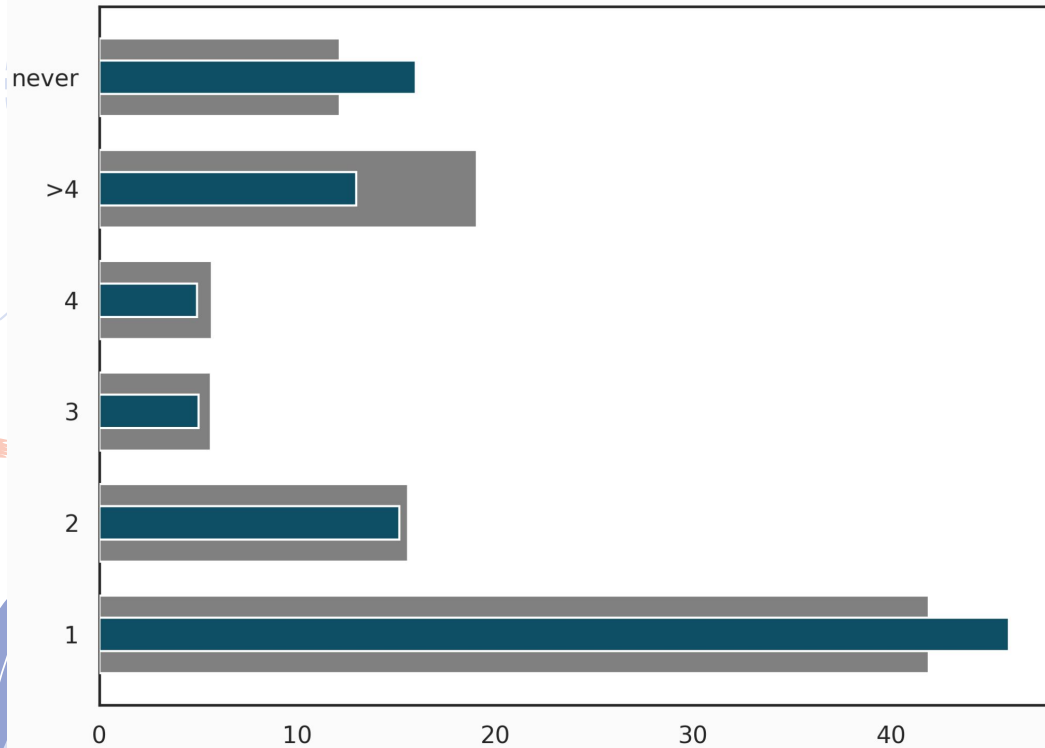# How many are looking for a new role?

25% Seeking

75% Not Seeking

Searching by gender

Last job duration (years)

Distribution: Company size vs employee experience

Company size	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Undisclosed	5%	5%	9%	10%	9%	8%	6%	5%	3%	4%	4%	3%	2%	1%	2%	2%	2%	1%	1%	1%	16%
<10	3%	4%	7%	7%	6%	8%	6%	6%	4%	5%	6%	4%	2%	2%	4%	4%	3%	2%	1%	1%	17%
10-49	3%	3%	6%	7%	8%	9%	8%	5%	4%	6%	6%	4%	3%	2%	3%	3%	3%	1%	2%	2%	13%
50-99	2%	2%	4%	7%	7%	8%	7%	5%	5%	6%	6%	4%	3%	2%	4%	4%	3%	2%	2%	1%	16%
100-500	2%	1%	4%	6%	6%	6%	5%	6%	5%	6%	6%	4%	3%	2%	3%	5%	3%	2%	2%	2%	20%
500-999	2%	2%	4%	4%	6%	6%	7%	6%	4%	6%	4%	3%	4%	3%	3%	5%	4%	2%	2%	2%	20%
1000-4999	2%	1%	3%	4%	5%	5%	5%	5%	4%	5%	6%	4%	3%	3%	5%	5%	3%	2%	1%	2%	25%
5000-9999	1%	2%	4%	3%	5%	7%	6%	7%	5%	5%	6%	4%	4%	3%	4%	3%	4%	2%	2%	2%	22%
10000+	2%	2%	3%	5%	5%	7%	7%	5%	4%	5%	6%	4%	2%	3%	3%	4%	3%	2%	2%	2%	22%

Employee Experience [years]

Job Seekers: Company size vs employee experience

Most job seekers have between 2 - 7 years experience.

Company size	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Undisclosed	6%	5%	10%	10%	10%	8%	6%	6%	4%	4%	3%	3%	1%	1%	2%	2%	1%	1%	1%	1%	14%
<10	8%	8%	10%	11%	9%	10%	6%	3%	3%	4%	7%	3%	2%	3%	3%	3%	2%	0%	0%	1%	4%
10-49	8%	5%	9%	11%	12%	11%	9%	6%	4%	5%	4%	2%	2%	2%	3%	2%	1%	0%	1%	1%	2%
50-99	4%	6%	6%	11%	11%	11%	10%	5%	4%	4%	4%	4%	3%	1%	2%	2%	2%	2%	1%	0%	7%
100-500	5%	3%	6%	12%	7%	9%	8%	7%	7%	7%	6%	3%	2%	1%	2%	2%	2%	1%	0%	2%	9%
500-999	5%	3%	5%	9%	7%	7%	9%	12%	3%	6%	3%	5%	5%	1%	2%	3%	1%	2%	1%	1%	12%
1000-4999	4%	4%	4%	6%	8%	6%	4%	6%	4%	6%	10%	4%	1%	2%	4%	5%	1%	3%	0%	2%	16%
5000-9999	3%	8%	4%	1%	9%	9%	5%	11%	8%	6%	6%	3%	3%	2%	7%	5%	0%	2%	1%	0%	9%
10000+	4%	2%	3%	7%	5%	9%	9%	8%	5%	7%	5%	4%	3%	4%	3%	4%	3%	2%	1%	2%	10%

Employee Experience (years)

02

Modeling

Make sure you fit your best
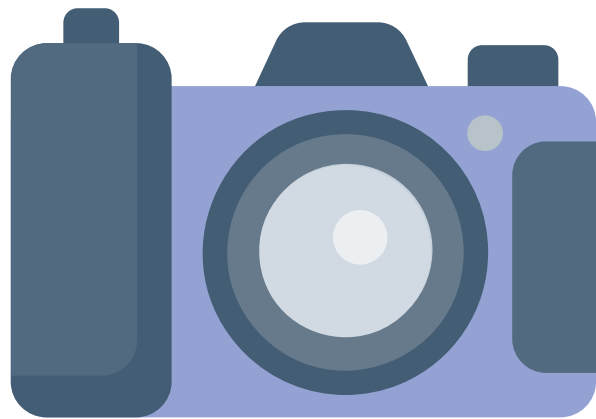
Making it fit
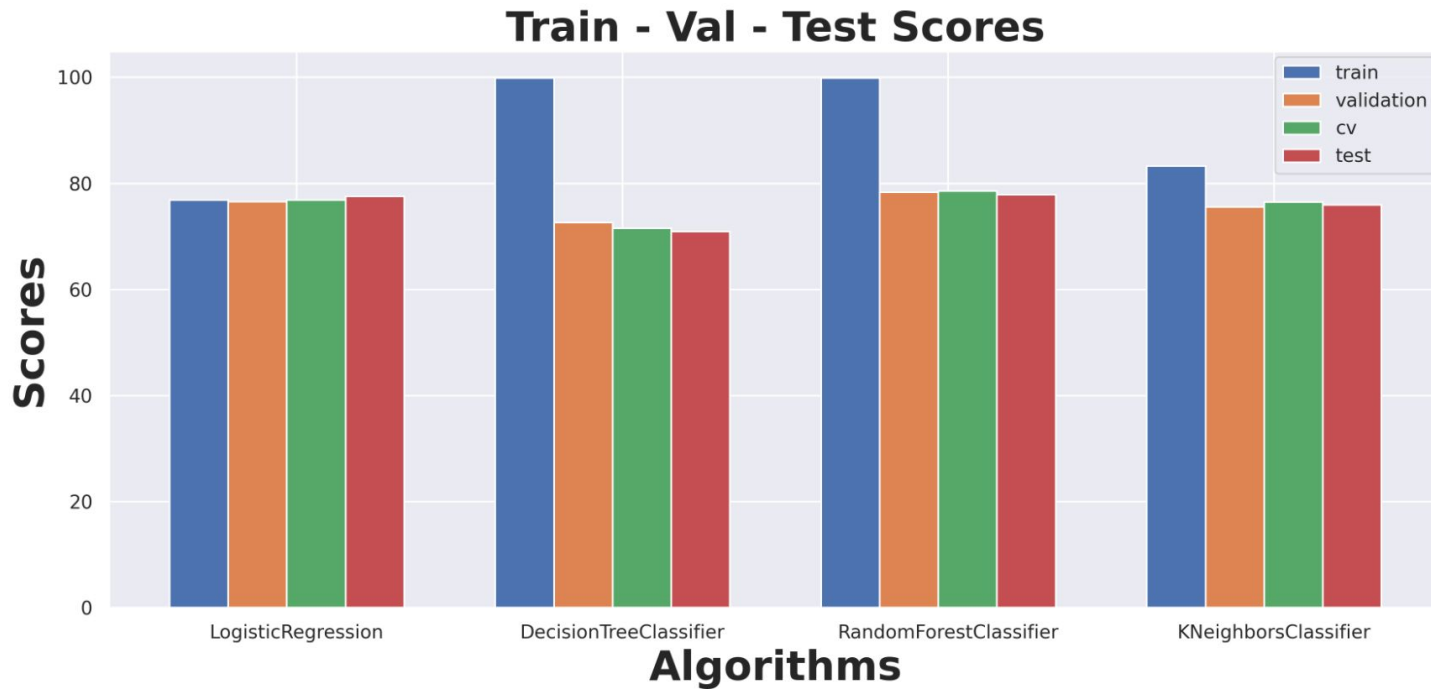
Train - Val - Test Scores

Making it fit

Models	Accuracy	Precision	Recall	F1
Logistic Regression	.775574	.301471	.595436	.400279
Decision Tree	.709290	.429622	.417347	.423395
Random Forest	.778966	.468487	.566709	.512938
KNN	.759394	.434874	.518797	.473143

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03

Scoring
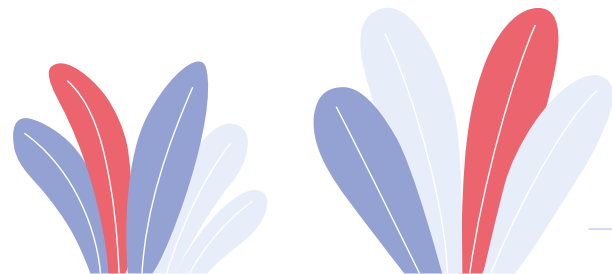
Model Performance
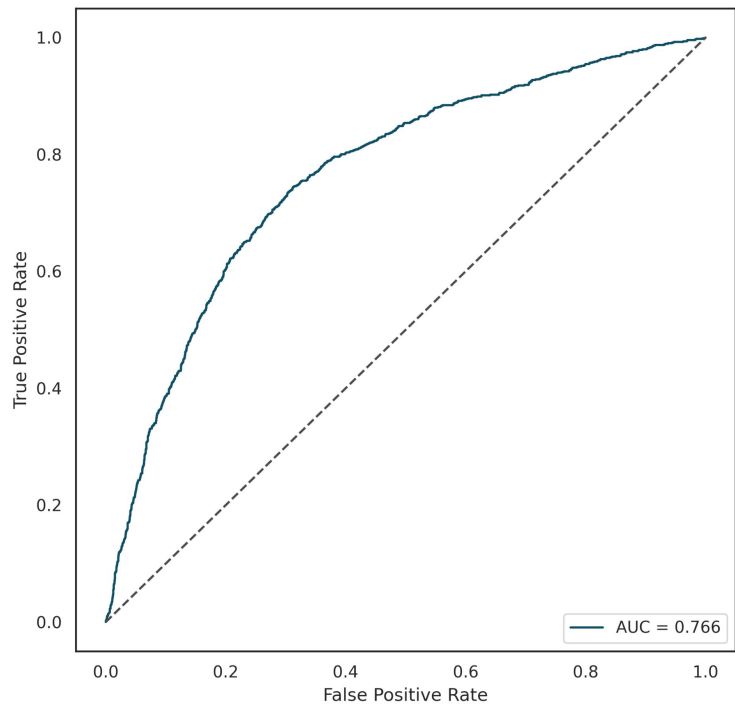
AUC Score

.766

04

Features

What to pay attention to

What Matters?

Features	importance (abs coef)
city_development_index	0.866958
enrolled_university	0.380426
relevent_experience	0.352948
education_level	0.242376
company_type	0.1552
company_size	0.143039
training_hours	0.114973
major_discipline	0.113832
gender	0.106495
enrollee_id	0.080916
last_new_job	0.068123
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Can't wait to see you!

THANKS!