

Dataset View - Akkodis

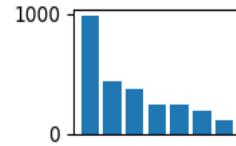
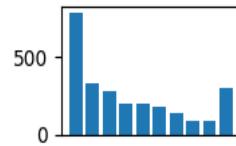
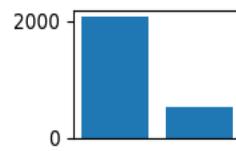
Dataset Head

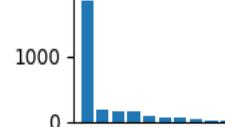
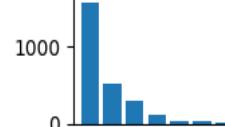
Age Bin	Sensitive	Sex	Study Area	Study Title	Sector	Job Family Hiring	Job Title Hiring	Technica l Skills	Comunic ation	Maturity	Dynamis m	Mobility	English	Europea n Residence	Italian R esidence	Status
31 - 35	Male 31 - 35 Italian	Male	Engineering	Five-year degree	Automotive	Engineering	Consultant	3	2	3	3	2	4	Yes	Yes	Positive
40 - 45	Female 40 - 45 Italian	Female	Engineering	Five-year degree	Aeronautics	Not Specified	Not Specified	2	2	2	2	2	3	Yes	Yes	Negative
36 - 40	Male 36 - 40 Italian	Male	Engineering	Five-year degree	Consulting	Not Specified	Not Specified	2	2	2	2	2	3	Yes	Yes	Positive
> 45	Male > 45 Italian	Male	Law	Five-year degree	Telecom	Not Specified	Not Specified	2	2	2	2	2	3	Yes	Yes	Positive
31 - 35	Male 31 - 35 Italian	Male	Engineering	Five-year degree	Automotive	Not Specified	Not Specified	3	2	2	3	1	1	Yes	Yes	Negative
36 - 40	Male 36 - 40 Italian	Male	Engineering	Five-year degree	Telecom	Not Specified	Not Specified	2	2	3	3	3	3	Yes	Yes	Negative
31 - 35	Female 31 - 35 Italian	Female	Economic	Five-year degree	Others	Support	Support Advanced	2	2	2	2	2	2	Yes	Yes	Positive
36 - 40	Male 36 - 40 Italian	Male	Engineering	Five-year degree	Space	Not Specified	Not Specified	3	3	3	3	2	2	Yes	Yes	Negative
36 - 40	Male 36 - 40 Italian	Male	Scientific Field	Five-year degree	Life sciences	Engineering	Consultant	2	2	3	3	1	2	Yes	Yes	Positive
40 - 45	Male 40 - 45 Italian	Male	Engineering	Five-year degree	Unemployed	Not Specified	Not Specified	2	2	2	2	2	3	Yes	Yes	Negative
36 - 40	Male 36 - 40 Italian	Male	Engineering	Five-year degree	Consulting	Engineering	Consultant	3	2	3	3	3	3	Yes	Yes	Positive
36 - 40	Female 36 - 40 Italian	Female	Engineering	Doctorate	Others	Engineering	Qualified Consultant	2	2	2	2	2	3	Yes	Yes	Positive
31 - 35	Male 31 - 35 Italian	Male	Engineering	Five-year degree	Others	Not Specified	Not Specified	2	2	2	2	1	3	Yes	Yes	Negative
40 - 45	Male 40 - 45 Italian	Male	Engineering	Five-year degree	Others	Engineering	Qualified Consultant	3	2	2	2	2	2	Yes	Yes	Positive
31 - 35	Male 31 - 35 Italian	Male	Engineering	Five-year degree	Consulting	Engineering	Consultant	2	2	2	2	2	3	Yes	Yes	Positive

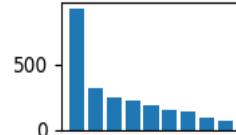
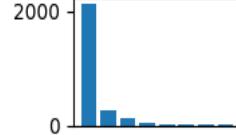
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31 - 35	Male 31 - 35 Italian	Male	Engineering	Five-year degree	Others	Engineering	Consultant	3	3	3	2	2	3	Yes	Yes	Positive
31 - 35	Male 31 - 35 Italian	Male	Engineering	Five-year degree	Consulting	Engineering	Consultant	3	3	3	2	2	2	Yes	Yes	Positive
31 - 35	Male 31 - 35 Italian	Male	Engineering	Five-year degree	Aeronautics	Not Specified	Not Specified	2	2	2	2	2	3	Yes	Yes	Positive
31 - 35	Female 31 - 35 Italian	Female	Engineering	Five-year degree	Unemployed	Engineering	Consultant	2	2	2	2	2	3	Yes	Yes	Positive
31 - 35	Male 31 - 35 Italian	Male	Engineering	Five-year degree	Others	Engineering	Consultant	3	3	2	2	2	2	Yes	Yes	Positive
31 - 35	Male 31 - 35 Non-Italian	Male	Engineering	Five-year degree	Space	Engineering	Consultant	2	2	2	2	2	3	Yes	No	Positive
> 45	Male > 45 Italian	Male	Scientific Field	High school graduation	Railway	Engineering	Team Leader	3	2	3	2	2	2	Yes	Yes	Positive
31 - 35	Male 31 - 35 Italian	Male	Engineering	Five-year degree	Others	Not Specified	Not Specified	2	2	2	2	2	3	Yes	Yes	Positive
31 - 35	Male 31 - 35 Italian	Male	Engineering	Five-year degree	Defence	Engineering	Consultant	3	3	2	3	3	3	Yes	Yes	Positive
31 - 35	Male 31 - 35 Italian	Male	Engineering	Five-year degree	Unemployed	Not Specified	Not Specified	3	3	2	1	1	3	Yes	Yes	Positive
31 - 35	Female 31 - 35 Italian	Female	Engineering	Five-year degree	Life sciences	Not Specified	Not Specified	2	2	2	2	2	3	Yes	Yes	Negative
31 - 35	Male 31 - 35 Italian	Male	Engineering	Three-year degree	Unemployed	Tech Consulting & Solutions	Advanced Consultant	3	2	2	3	1	3	Yes	Yes	Positive
26 - 30	Female 26 - 30 Italian	Female	Engineering	Three-year degree	Unemployed	Not Specified	Not Specified	2	2	2	2	2	3	Yes	Yes	Negative
31 - 35	Male 31 - 35 Italian	Male	Engineering	Five-year degree	Naval	Not Specified	Not Specified	2	2	2	2	2	3	Yes	Yes	Positive

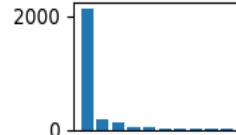
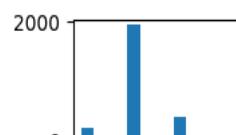
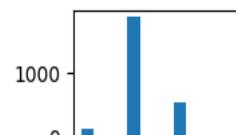
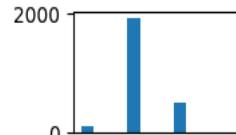
Features View

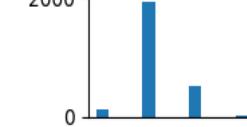
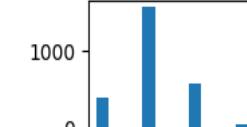
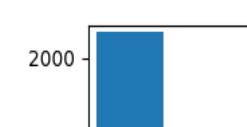
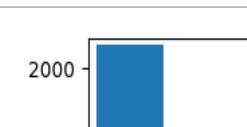
Stats

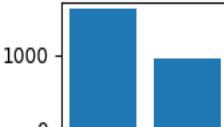
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Age Bin	0								categorical	20 - 25 , 26 - 30 , 31 - 35 , 36 - 40 , 40 - 45 , < 20 , > 45		True	False
Sensitive	0								categorical	Female 20 - 25 Italian, Female 26 - 30 Italian, Female 26 - 30 Non-Italian, Female 31 - 35 Italian, Female 31 - 35 Non-Italian, Female 36 - 40 Italian...		True	False
Sex	0								binary	Female, Male		True	False

feature	missing_values	min	max	mean	std	1st_percentile	2nd_percentile	3rd_percentile	type	values	distribution	sensitive	target
Study Area	0								categorical	Economic, Engineering, Informatics, Law, Linguistics, Medical Field, NO COLLEGE, Other, Other Humanities Subjects, Scientific Field		False	False
Study Title	0								categorical	Doctorate, Five-year degree, High school graduation, Middle school diploma, Professional qualification, Three-year degree, master's degree		False	False

feature	missing_values	min	max	mean	std	1st_percentile	2nd_percentile	3rd_percentile	type	values	distribution	sensitive	target
Sector	0								categorical	Aeronautics, Automotive, Consulting, Defence, Energy, Life sciences, Machining - Heavy Industry, Naval, Oil and Gas, Others, Railway, Services and Inf...		False	False
Job Family Hiring	0								categorical	Business & Sales, Business Management & Sales, Enabling Function, Engineering, Not Specified, Support, Talent Acquisition, Tech Consulting & Solutions		False	False

feature	missing_values	min	max	mean	std	1st_percentile	2nd_percentile	3rd_percentile	type	values	distribution	sensitive	target
Job Title Hiring	0								categorical	???, Advanced Business Manager, Advanced Consultant, Business Manager, Business Unit Director, Consultant, Junior Business Manager, Junior Consultant,...		False	False
Technic al Skills	0	1.0	4.0	2.08675 4453911 696	0.51651 0436229 2585	2.0	2.0	2.0	integer	1, 2, 3, 4		False	False
Comunic ation	0	1.0	4.0	2.17118 5127807 901	0.50504 4745624 4623	2.0	2.0	2.0	integer	1, 2, 3, 4		False	False
Maturity	0	1.0	4.0	2.16382 6491092 1765	0.49158 0169715 6381	2.0	2.0	2.0	integer	1, 2, 3, 4		False	False

feature	missing_values	min	max	mean	std	1st_percentile	2nd_percentile	3rd_percentile	type	values	distribution	sensitive	target
Dynamism	0	1.0	4.0	2.16266 4601084 4306	0.49235 9628420 1219	2.0	2.0	2.0	integer	1, 2, 3, 4		False	False
Mobility	0	1.0	4.0	2.10224 6320681 642	0.65550 0663798 4702	2.0	2.0	2.0	integer	1, 2, 3, 4		False	False
English	0	1.0	4.0	2.84972 8892331 526	0.44438 6752186 6916	3.0	3.0	3.0	integer	1, 2, 3, 4		False	False
European Residence	0								binary	No, Yes		False	False
Italian Residence	0								binary	No, Yes		True	False

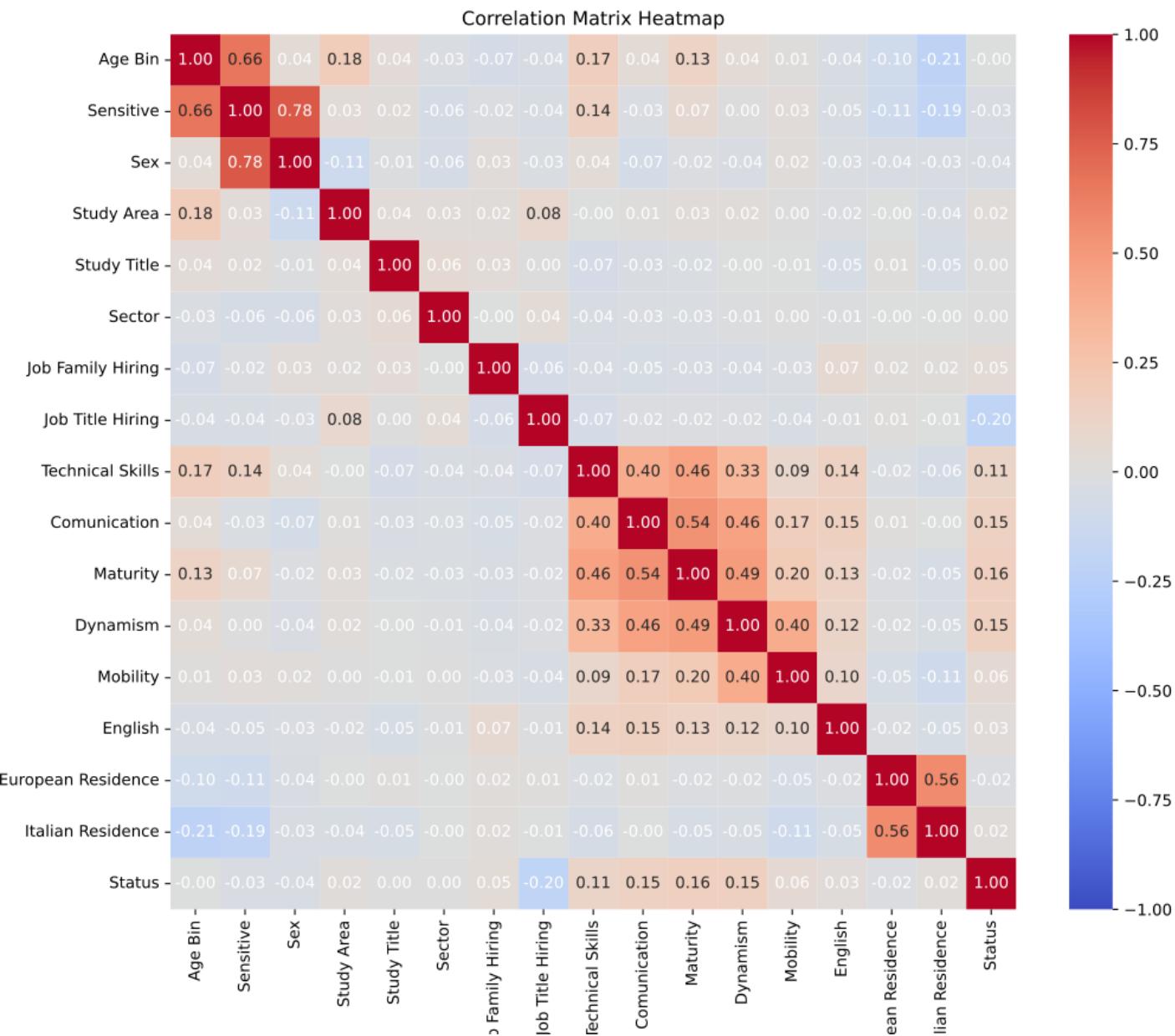
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Status	0								binary	Negative, Positive		False	True

Features

Field Name	drop	sensitive	target
Age Bin	✗	✓	✗
Sensitive	✗	✓	✗
Sex	✗	✓	✗
Study Area	✗	✗	✗
Study Title	✗	✗	✗
Sector	✗	✗	✗
Job Family Hiring	✗	✗	✗
Job Title Hiring	✗	✗	✗
Technical Skills	✗	✗	✗
Communication	✗	✗	✗
Maturity	✗	✗	✗
Dynamism	✗	✗	✗
Mobility	✗	✗	✗
English	✗	✗	✗
European Residence	✗	✗	✗
Italian Residence	✗	✓	✗
Status	✗	✗	✓

Proxies

Correlation Matrix



Suggested Proxies

Age Bin

	Sensitive	Sex	Study Area	Study Title	Sector	Job Family Hiring
correlation	66.06%	4.43%	17.73%	3.62%	-2.79%	-6.83%
suggested_proxy	X	X	X	X	X	X

Age Bin

	Job Title Hiring	Technical Skills	Communication	Maturity	Dynamism	Mobility
correlation	-4.14%	17.17%	3.95%	13.07%	4.10%	1.39%
suggested_proxy	X	X	X	X	X	X

Age Bin

	English	European Residence	Italian Residence
correlation	-4.41%	-9.96%	-21.45%
suggested_proxy	X	X	X

Sensitive

	Age Bin	Sex	Study Area	Study Title	Sector	Job Family Hiring
correlation	66.06%	77.68%	3.20%	2.30%	-5.81%	-1.89%
suggested_proxy	X	X	X	X	X	X

Sensitive

	Job Title Hiring	Technical Skills	Communication	Maturity	Dynamism	Mobility
correlation	-4.39%	13.87%	-3.07%	6.72%	0.02%	2.57%
suggested_proxy	X	X	X	X	X	X

Sensitive

	English	European Residence	Italian Residence
correlation	-4.61%	-10.78%	-19.12%
suggested_proxy	X	X	X

Sex

	Age Bin	Sensitive	Study Area	Study Title	Sector	Job Family Hiring

correlation	4.43%	77.68%	-11.16%	-0.92%	-5.65%	2.86%
suggested_proxy	X	X	X	X	X	X

Sex

	Job Title Hiring	Technical Skills	Communication	Maturity	Dynamism	Mobility
correlation	-2.66%	4.22%	-7.38%	-2.00%	-3.69%	1.68%
suggested_proxy	X	X	X	X	X	X

Sex

	English	European Residence	Italian Residence
correlation	-2.61%	-3.58%	-3.27%
suggested_proxy	X	X	X

Italian Residence

	Age Bin	Sensitive	Sex	Study Area	Study Title	Sector
correlation	-21.45%	-19.12%	-3.27%	-4.04%	-4.99%	-0.17%
suggested_proxy	X	X	X	X	X	X

Italian Residence

	Job Family Hiring	Job Title Hiring	Technical Skills	Communication	Maturity	Dynamism
correlation	1.72%	-0.70%	-5.67%	-0.10%	-5.07%	-4.68%
suggested_proxy	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>

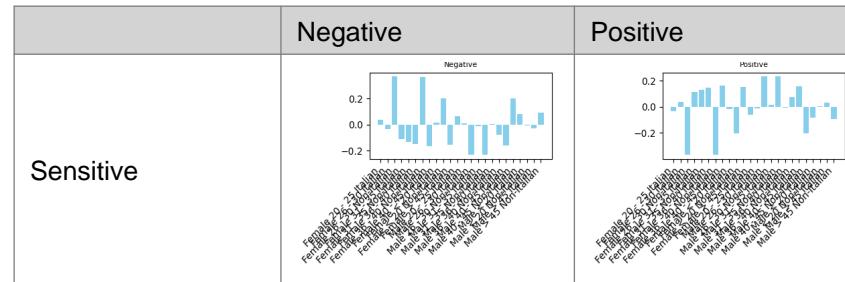
Italian Residence

	Mobility	English	European Residence
correlation	-10.71%	-5.09%	56.41%
suggested_proxy	<i>X</i>	<i>X</i>	<i>X</i>

Detection

Selected Metrics

StatisticalParityDifference



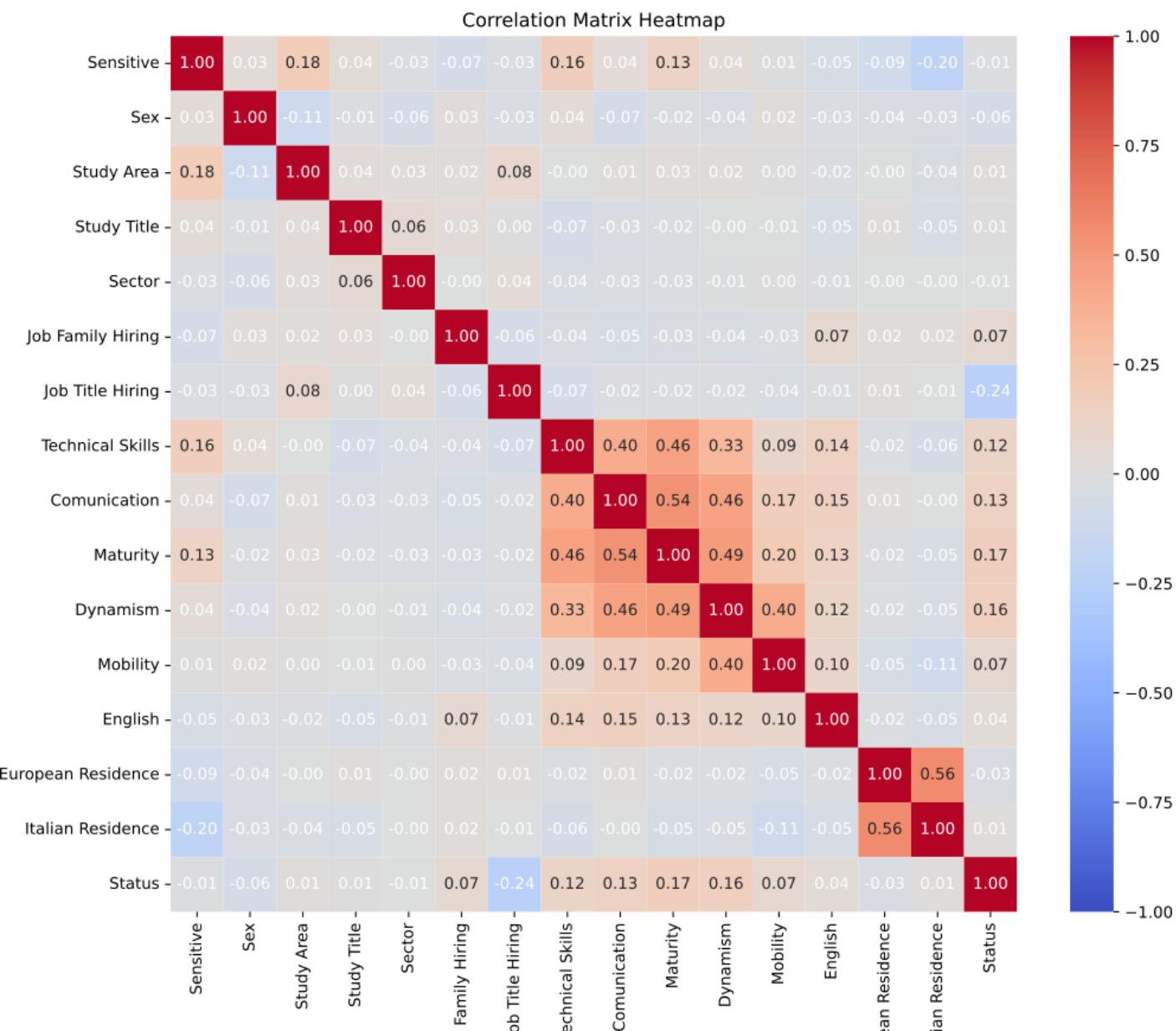
Model Mitigation

Inprocessing

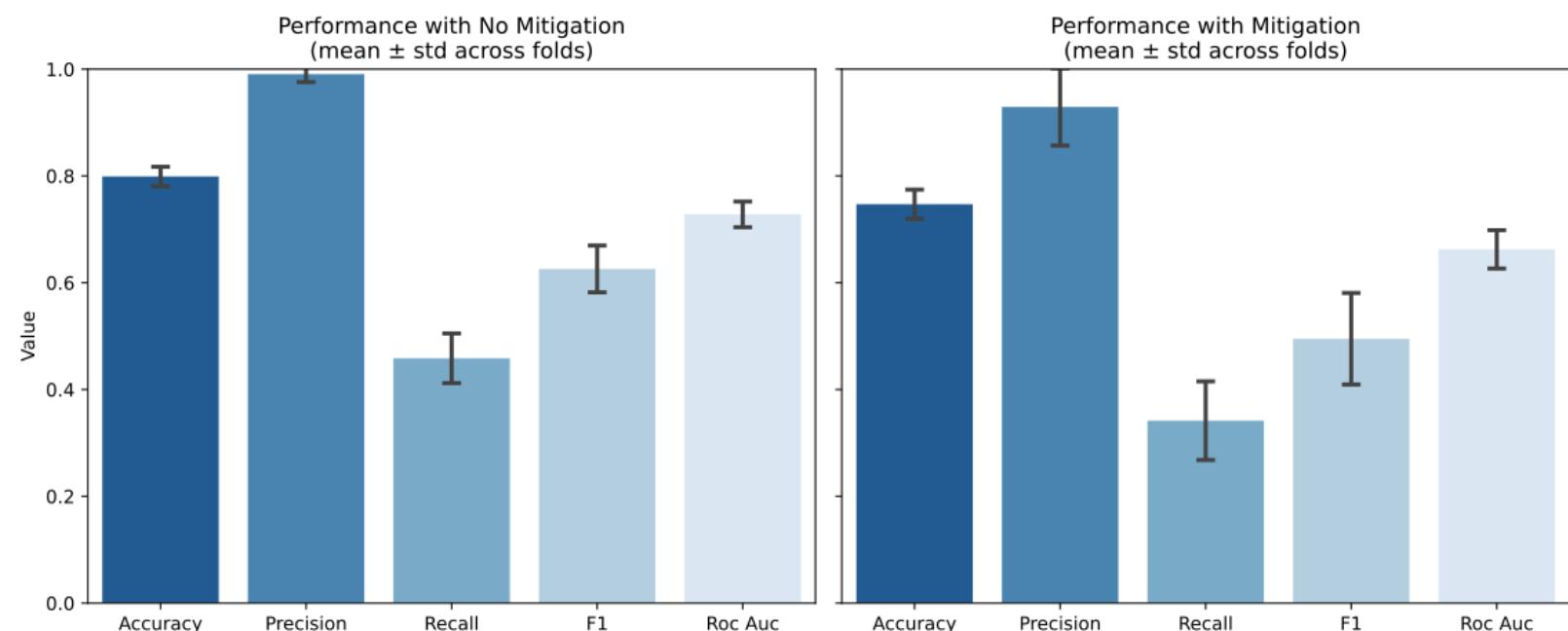
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Model Mitigation Results

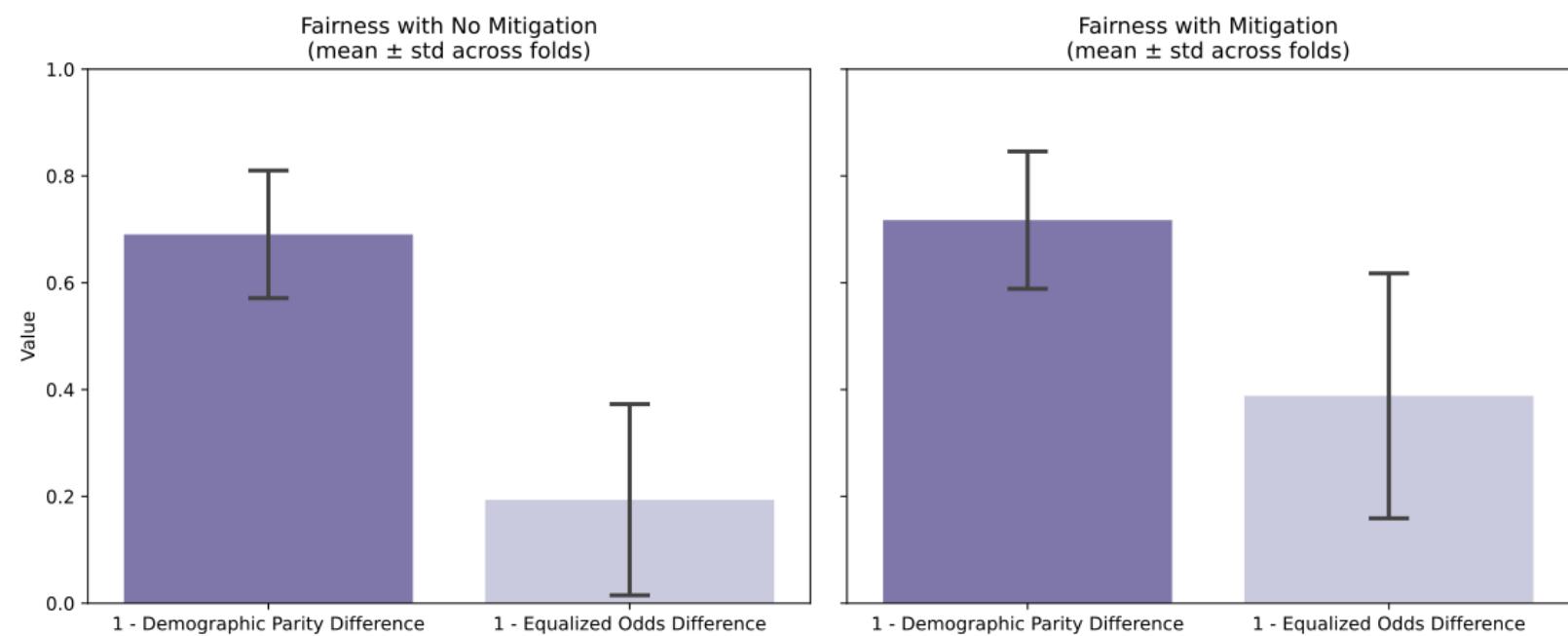
Correlation Matrix



Performance Plot



Fairness Plot



Predictions Head

Sensitive	Sex	Study Area	Study Title	Sector	Job Family Hiring	Job Title Hiring	Technical Skills	Communication	Maturity	Dynamism	Mobility	English	European Residence	Italian Residence	Status
Not a protected category 31 - 35 years	Male	Engineering	Five-year degree	Automotive	Engineering	Consultant	3	2	3	3	2	4	Yes	Yes	Positive
Not a protected category 40 - 45 years	Female	Engineering	Five-year degree	Aeronautics	Not Specified	Not Specified	2	2	2	2	2	3	Yes	Yes	Negative
Not a protected category 36 - 40 years	Male	Engineering	Five-year degree	Consulting	Not Specified	Not Specified	2	2	2	2	2	3	Yes	Yes	Positive
Not a protected category > 45 years	Male	Law	Five-year degree	Telecom	Not Specified	Not Specified	2	2	2	2	2	3	Yes	Yes	Positive
Not a protected category 31 - 35 years	Male	Engineering	Five-year degree	Automotive	Not Specified	Not Specified	3	2	2	3	1	1	Yes	Yes	Negative
Not a protected category 36 - 40 years	Male	Engineering	Five-year degree	Telecom	Not Specified	Not Specified	2	2	3	3	3	3	Yes	Yes	Negative
Not a protected category 31 - 35 years	Female	Economic	Five-year degree	Others	Support	Support Advanced	2	2	2	2	2	2	Yes	Yes	Positive
Not a protected category 36 - 40 years	Male	Engineering	Five-year degree	Space	Not Specified	Not Specified	3	3	3	3	2	2	Yes	Yes	Negative

Not a protected category 36 - 40 years	Male	Scientific Field	Five-year degree	Life sciences	Engineering	Consultant	2	2	3	3	1	2	Yes	Yes	Positive
Not a protected category 40 - 45 years	Male	Engineering	Five-year degree	Unemployed	Not Specified	Not Specified	2	2	2	2	2	3	Yes	Yes	Negative
Not a protected category 36 - 40 years	Male	Engineering	Five-year degree	Consulting	Engineering	Consultant	3	2	3	3	3	3	Yes	Yes	Positive
Not a protected category 36 - 40 years	Female	Engineering	Doctorate	Others	Engineering	Qualified Consultant	2	2	2	2	2	3	Yes	Yes	Negative
Not a protected category 31 - 35 years	Male	Engineering	Five-year degree	Others	Not Specified	Not Specified	2	2	2	2	1	3	Yes	Yes	Negative
Not a protected category 40 - 45 years	Male	Engineering	Five-year degree	Others	Engineering	Qualified Consultant	3	2	2	2	2	2	Yes	Yes	Positive
Not a protected category 31 - 35 years	Male	Engineering	Five-year degree	Consulting	Engineering	Consultant	2	2	2	2	2	3	Yes	Yes	Positive
Not a protected category 31 - 35 years	Male	Engineering	Five-year degree	Telecom	Not Specified	Not Specified	2	2	2	2	2	3	Yes	Yes	Negative
Not a protected category 31 - 35 years	Male	Engineering	Five-year degree	Others	Engineering	Consultant	3	3	3	2	2	3	Yes	Yes	Positive
Not a protected category 31 - 35 years	Male	Engineering	Five-year degree	Consulting	Engineering	Consultant	3	3	3	2	2	2	Yes	Yes	Positive

Not a protected category 31 - 35 years	Male	Engineering	Five-year degree	Aeronautics	Not Specified	Not Specified	2	2	2	2	2	3	Yes	Yes	Negative
Not a protected category 31 - 35 years	Female	Engineering	Five-year degree	Unemployed	Engineering	Consultant	2	2	2	2	2	3	Yes	Yes	Positive
Not a protected category 31 - 35 years	Male	Engineering	Five-year degree	Others	Engineering	Consultant	3	3	2	2	2	2	Yes	Yes	Positive
Not a protected category 31 - 35 years	Male	Engineering	Five-year degree	Space	Engineering	Consultant	2	2	2	2	2	3	Yes	No	Positive
Not a protected category > 45 years	Male	Scientific Field	High school graduation	Railway	Engineering	Team Leader	3	2	3	2	2	2	Yes	Yes	Positive
Not a protected category 31 - 35 years	Male	Engineering	Five-year degree	Others	Not Specified	Not Specified	2	2	2	2	2	3	Yes	Yes	Positive
Not a protected category 31 - 35 years	Male	Engineering	Five-year degree	Defence	Engineering	Consultant	3	3	2	3	3	3	Yes	Yes	Positive
Not a protected category 31 - 35 years	Male	Engineering	Five-year degree	Unemployed	Not Specified	Not Specified	3	3	2	1	1	3	Yes	Yes	Positive
Not a protected category 31 - 35 years	Female	Engineering	Five-year degree	Life sciences	Not Specified	Not Specified	2	2	2	2	2	3	Yes	Yes	Negative
Not a protected category 31 - 35 years	Male	Engineering	Three-year degree	Unemployed	Tech Consulting & Solutions	Advanced Consultant	3	2	2	3	1	3	Yes	Yes	Positive

Not a protected category 26 - 30 years	Female	Engineering	Three-year degree	Unemployed	Not Specified	Not Specified	2	2	2	2	2	3	Yes	Yes	Negative
Not a protected category 31 - 35 years	Male	Engineering	Five-year degree	Naval	Not Specified	Not Specified	2	2	2	2	2	3	Yes	Yes	Positive