Modeling Income

Based on skills

Questions

How much raise (if any)does an employee in a particular occupation and at a particular location will earn by learning a certain skill?

Is a particular skill for a given occupation worth learning in terms of monetary gain?

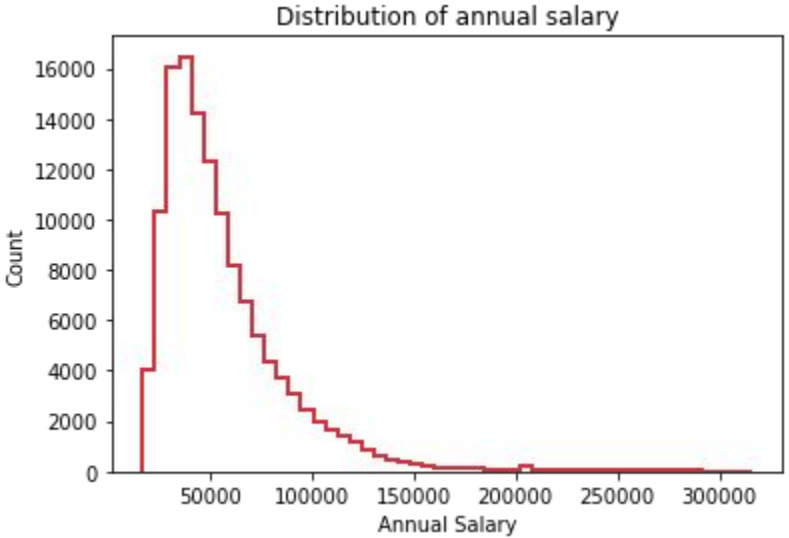
Would moving to a new state need have a significant effect on income?

Data

Bureau of Labor Statistics: Salaries

O*net: Skills (importance scale 1-5

Target feature - Income



	Annual (dollars)	Hourly (dollars)
Mean	57,448	27.34
Min	17,300	8.32
Max	315,830	151.84

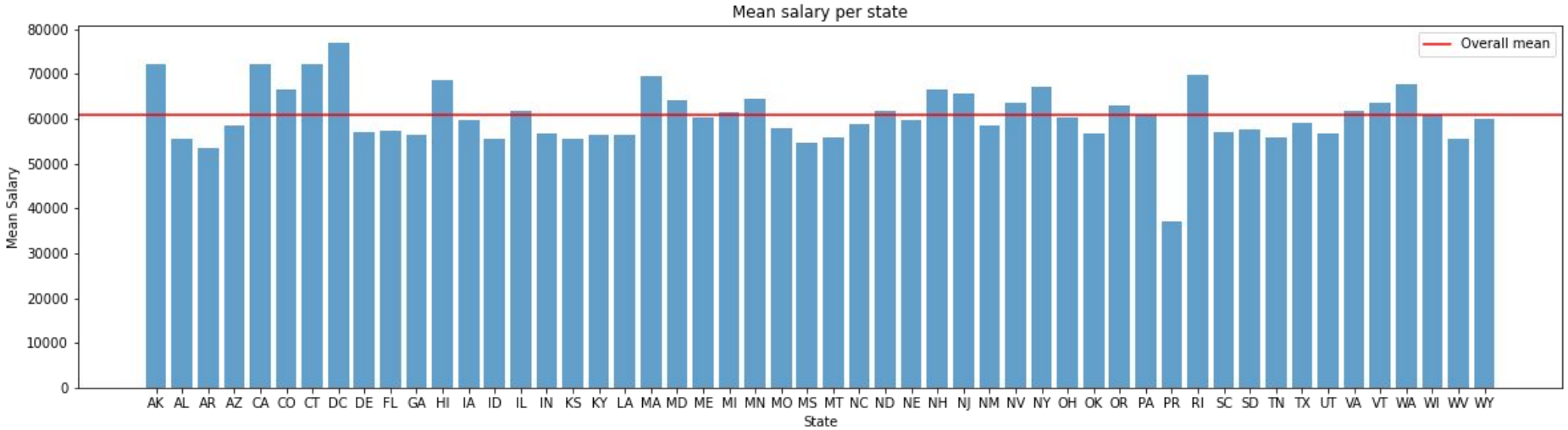
Features

31 skills

52 states(includes Puerto Rico and DC)

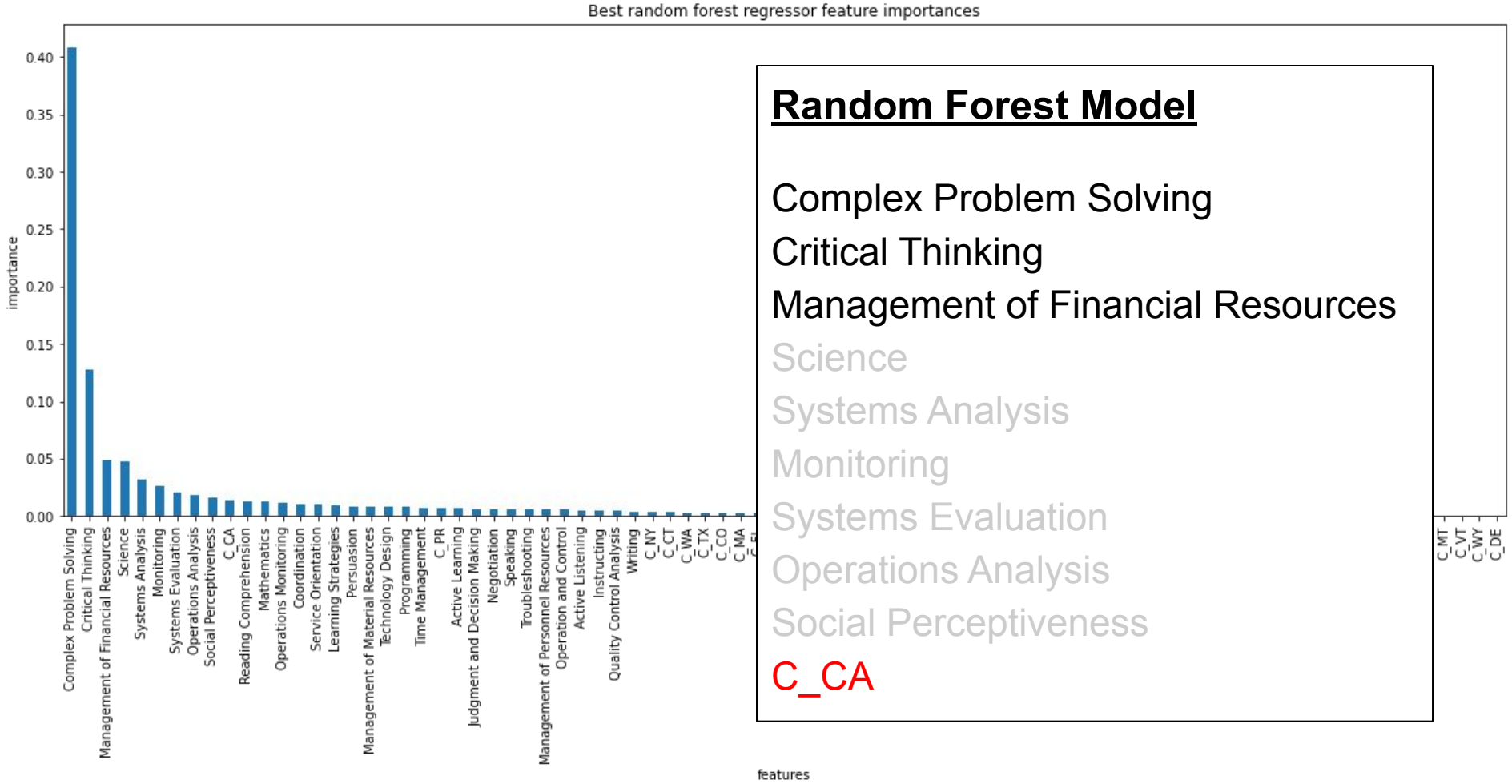
83 total features

Average State Income



Model Performance

	OLS	Ridge	SVR	Random Forest
R-squared	0.61	0.61	0.59	0.89
MAE test	$14,251	$14,250	$13,671	$6,995



Random Forest Model

Complex Problem Solving

Critical Thinking

Management of Financial Resources

Science

Systems Analysis

Monitoring

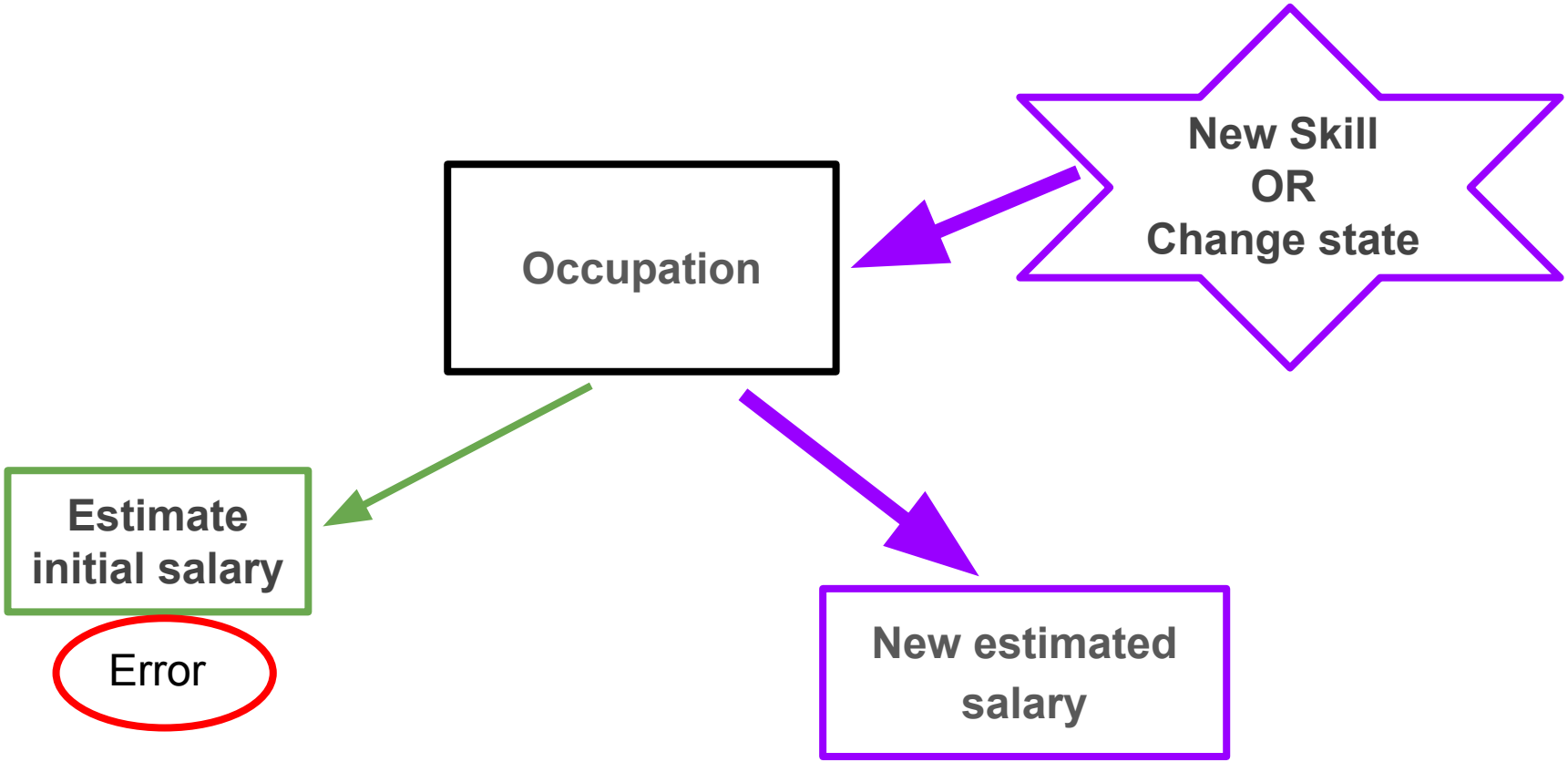
Systems Evaluation

Operations Analysis

Social Perceptiveness

C_CA

Should I learn that?



Chief Executives

Complex Problem Solving (4.38)

Estimated salary: $205,006

Error: -$2,644

Salary change: $0

Marketing Manager

Programming (1.88)

Estimated salary: $120,652

Error: + $2,632

Salary change: + $87

Food Service Managers

Speaking (3.75)

Estimated salary: $62,818

Error: $38

Salary change: + $2,315

What else can we do?

Include “skill level” values in the model

Explore how location changes affect income

Try more models

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