




decision modelling technology 

Using Apollo from within the SurveyEngine platform

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Apollo Integration in SurveyEngine



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v.4.5.2.4

Models / zero config / zero config (v1)
demo_v1

get respondents help

zero config (v1, draft) Select model ▼

Description

Experiment
Hotels / pref1

Data
42 unfiltered respondents, 3 filters enabled
Refresh data Filter

Parameters

☒

alternatives

base: hotel1

☒

price

linear, generic

☒

stars

categorical, base level: level1, generic

☒

dist

linear, generic

☒

bfast

categorical, base level: level1, generic

Script

Messages

```
##### DEFINE MODEL PARAMETERS #####  
# #####  
  
### Vector of parameters, including any that are kept fixed in  
### estimation  
  
apollo_beta <- c(  
  asc_hotel1 = 0,  
  asc_hotel2 = 0,  
  b_price = 0,  
  b_stars_level1 = 0,  
  b_stars_level2 = 0,  
  b_stars_level3 = 0,  
  b_dist = 0,  
  b_bfast_level1 = 0,  
  b_bfast_level2 = 0  
)  
  
### Vector with names (in quotes) of parameters to be kept fixed at  
### their starting value in apollo_beta, use apollo_fixed = c()  
### if none  
apollo_fixed <- c(  
  "asc_hotel1",  
  "b_stars_level1",  
  "b_bfast_level1"  
)  
  
# #####  
##### GROUP AND VALIDATE INPUTS #####
```

Download Run script

A simple Example Experiment

	Hotel 1	Hotel 2
Price	160\$	80\$
Stars	***	*****
Distance	2500m	500m
Free Breakfast	no	yes
Which would you choose?	<input type="radio"/> Hotel 1	<input type="radio"/> Hotel 2

Setting up the Choice Experiment

surveyengine
decision modelling technology

Dashboard

Edit

Pages

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Experiment

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Minimize

Experiment
demo_hotels_with_exp

Hotels

SpecLayoutDesignAdvanced

get respondentshelp

SettingsPreview

price

Price

☒ Numeric

stars

Stars

☐ Numeric

dist

Distance

☒ Numeric

bfast

Free Breakfast

☐ Numeric

hotel1Hotel 1

8080\$

120120\$

160160\$

+ Add levelLink

hotel2Hotel 2

8080\$

120120\$

160160\$

+ Add levelLink

+ AddGeneric

*

+ Add levelLink

+ AddGeneric

500500m
15001500m
25002500m

+ Add levelLink

+ AddGeneric

yes
no

+ AddGeneric

Experimental Design with Ngene™

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decision modelling technology

Dashboard

Edit

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Minimize

Hotels \ Experiment Design \ Ngene™
demo_hotels_with_exp

get respondents help

Hotels

SpecLayoutDesignDesign \ Ngene™Advanced

Reset all

Design Type: Efficient

Rows (recommended)Interactions (none)Algorithm (swapping)Efficiency (mnl, d-error)

Blocks (1)no constraintsBayesian (mean, sobol, 200) *

Hotel 1

price - Price	<input checked="" type="checkbox"/> linear	price Attribute Priors	
80	<input type="text" value="80"/>	}	0 fixed value
120	<input type="text" value="120"/>		
160	<input type="text" value="160"/>		
stars - Stars	<input type="checkbox"/> linear	stars Level Priors	
*	<input type="text" value="0"/>	<input type="text" value="0"/>	fixed value
***	<input type="text" value="1"/>	<input type="text" value="0"/>	fixed value
*****	<input type="text" value="2"/>		
dist - Distance	<input checked="" type="checkbox"/> linear	dist Attribute Priors	
500m	<input type="text" value="500"/>	}	0 fixed value
1500m	<input type="text" value="1500"/>		
2500m	<input type="text" value="2500"/>		
bfast - Free Breakfast	<input type="checkbox"/> linear	bfast Level Priors	
yes	<input type="text" value="0"/>	<input type="text" value="0"/>	fixed value
no	<input type="text" value="1"/>		

Current Ngene™ Script

CurrentHistory


```
design
;alts = hotel1*, hotel2*
? efficient design
;eff = (mnl, d)
;alg = swap
;rows = 15

;model:
u(hotel1) = b1[0]          * price[80,120,160]
            + b2.dummy[0] * stars[0,1,2]
            + b3[0]        * dist[500,1500,2500]
            + b4.dummy[0]  * bfast[0,1]

/
u(hotel2) = b1 * price
            + b2 * stars
            + b3 * dist
            + b4 * bfast

$
```

Apollo Integration in SurveyEngine



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- Crosstabs
- Reports
- Models

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Models / zero config / zero config (v1)
demo_v1

get respondents help

zero config (v1, draft) Select model

Description

Experiment Hotels / pref1

Data 42 unfiltered respondents, 3 filters enabled Refresh data Filter

Parameters

✓	alternatives	base: hotel1
✓	price	linear, generic
✓	stars	categorical, base level: level1, generic
✓	dist	linear, generic
✓	bfast	categorical, base level: level1, generic

Script **Messages**

```
##### DEFINE MODEL PARAMETERS #####  
# #####  
  
### Vector of parameters, including any that are kept fixed in  
### estimation  
  
apollo_beta <- c(  
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  b_stars_level3 = 0,  
  b_dist = 0,  
  b_bfast_level1 = 0,  
  b_bfast_level2 = 0  
)  
  
### Vector with names (in quotes) of parameters to be kept fixed at  
### their starting value in apollo_beta, use apollo_fixed = c()  
### if none  
apollo_fixed <- c(  
  "asc_hotel1",  
  "b_stars_level1",  
  "b_bfast_level1"  
)  
  
# #####  
##### GROUP AND VALIDATE INPUTS #####
```

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Apollo Integration in SurveyEngine

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Models / zero config / zero config (v1)

demo_hotels_with_data

get respondents help

zero config (v1)

Select model

Description

Experiment

Data

Parameters

Hotels / pref1

42 unfiltered respondents, 3 filters enabled

price: linear, generic

stars: categorical, base level: level1, generic

dist: linear, generic

bfast: categorical, base level: level1, generic

Change model

This model has been run and cannot be edited. To continue adjusting your model settings and create a new model, click the 'Continue' button.

You can always return to this screen to review these results.

Model

Apollo Output

Script

Messages

view with parameters

Model creation time: May 8, 2025 at 07:01 UTC

Log-likelihood: -254.43

AIC: 520.87

BIC: 544.96

ASC	utility	error	t-ratio
asc_hotel1	0		
asc_hotel2	-0.08048	0.08091	-0.80511

price	utility	error	t-ratio
b_price	-0.00438	0.00217	-2.01681
utility estimate at 80	-0.35004	0.17356	-2.01681
utility estimate at 100	-0.43756	0.21095	-2.01681
utility estimate at 120	-0.52507	0.26034	-2.01681
utility estimate at 140	-0.61258	0.30374	-2.01681
utility estimate at 160	-0.70009	0.34713	-2.01681

stars	utility	error	t-ratio
b_stars_level1	0		
b_stars_level2	0.62302	0.09830	6.33442
b_stars_level3	0.67338	0.20030	3.36102

dist	utility	error	t-ratio
b_dist	-0.00026	0.00010	-2.62359
utility estimate at 500	-0.12020	0.04925	-2.62359
utility estimate at 1000	-0.25841	0.09840	-2.62359
utility estimate at 1500	-0.38761	0.14774	-2.62359
utility estimate at 2000	-0.51682	0.19699	-2.62359
utility estimate at 2500	-0.64602	0.24623	-2.62359

bfast	utility	error	t-ratio
b_bfast_level1	0		
b_bfast_level2	0.10434	0.08992	1.16044

Customising the Treatment of Attributes

The screenshot displays the Survey Engine interface with a modal dialog titled "Attribute" open. The dialog is for configuring the "stars" attribute. The background interface shows a sidebar with navigation options (Dashboard, Edit, Deploy, Results, Data, Frequencies, Crosstabs, Reports, Models) and a main panel with tabs for Description, Experiment, and Data. The "Parameters" section lists attributes like alternatives, price, stars, dist, and bfast.

Attribute Configuration Dialog:

- Title:** Attribute
- Subtitle:** Specify the settings for estimating attribute 'stars'.
- Name:** stars
- Description:** Stars
- Levels:** categorical (dropdown)
- Grouping:** generic (dropdown)
- Base:** hotel1 / hotel2

Base	Name	Description	Parameter
<input checked="" type="radio"/>	level1	*	b_stars_level1
<input type="radio"/>	level2	***	b_stars_level2
<input type="radio"/>	level3	*****	b_stars_level3

Levels with the same name will have respective parameters with the same names and will be estimated as a single parameter.

Buttons: Cancel, Expert mode, Reset, Save

The background interface also shows a code editor with R script for the "zero config" model, including package installation and core script definitions.

Filtering Data

The screenshot displays the Survey Engine web application interface. On the left is a dark sidebar with navigation links: Dashboard, Edit, Deploy, Results, Data, Frequencies, Crosstabs, Reports, and Models. The main content area is titled 'Models / zero config / zero config (v2)' and shows a configuration for 'demo_hotels_with_data'. It includes sections for Description, Experiment (Hotels / pref1), Data (42 unfiltered respondents, 3 filters), and Parameters (alternatives, price, stars, dist, bfast). A 'Data Exclusion Filter' dialog box is open in the center, prompting the user to specify criteria for data exclusion. The dialog lists four criteria, all of which are checked: 'respondents only partially completed the survey', 'choice experiment data are incomplete', 'a choice was made outside valid alternative options', and 'the data match the Perl expression below'. The Perl expression '\$background == 2' is entered in the text field. The dialog has 'Cancel', 'Reset', and 'Save' buttons. In the background, a code editor shows R script for the 'zero config' model, including package installation and core script definitions.

Data Exclusion Filter
Specify the criteria for data to exclude from the model.

Exclude respondent data where

- ☒ respondents only partially completed the survey
- ☒ choice experiment data are incomplete
- ☒ a choice was made outside valid alternative options
- ☒ the data match the Perl expression below

\$background == 2

Cancel Reset Save