



NextGen
INVENT CORP
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Customer Segmentation Model



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1. Introduction

NextGen Invent corporation is a leading global technology services provider. Our multi-disciplinary teams, Data Scientists, Change Agents, Strategists and Process Analysis framework are delivering Robotic Process Automation solution to its clients.

NGI in partnership with Automation Anywhere is delivering Stats/ML/AI/NLP/OR/Deep Learning models as ready to use Cloud Bots that are providing efficiencies across business processes, improved customer conversion rate and reduced churn rate.

1.1. Overview

Apply Customer Segmentation Model as a Cloud Bot to your workflow and automate your business processes. This bot segregate groups with similar traits and assign them into clusters.

1.2. Use cases

- Identify most profitable customers and target them in your marketing campaigns to increase sales per customer.
- Segment your customers by purchase history and their interest to target right product/service.
- Segment patients based on their medical history and demographic to recruit right patients for clinical trial.



2. Requirements & Prerequisites

2.1. System Requirements

For the PC or server where the bot needs to run:

Device	Processor	RAM	Storage	Network
Machine	Intel Core i5 or higher	8GB or higher	16GB	1GbE
Bot Creator and Bot Runner	No additions to the machine requirements	No additions to the machine requirements	No additions to the machine requirements	No additions to the machine requirements

2.2. Prerequisites

Software's needed -

Automation Anywhere Plugin version	Excel Requirement Version
11.x	2013 version or higher



3. Getting Started

3.1.Skill Matrix

- Prepare rapid unsupervised customer clusters/segments and persona
- Prepare CSV file to pass it to the model and processing MS Excel output.
- Help in understanding behavioral customer segments to a marketer to make data driven business decisions.

3.2.Installation Hierarchy

- Download the bot from Bot Store.
- Double click on the .msi file.
- On Welcome to Installation wizard, click Next to continue.
- Click I agree to the terms in the license agreement radio button to accept the agreement.
- Get/Copy the License key from Bot Store Downloads into License Key, click Next to continue.
- Click Install to begin the installation.
- Click Finish to complete the installation.
- To view the installation, go to 'My Tasks' folder on AAE Client to see bot files

3.3.Configuration

Inputs:

Parameter	Type	Direction	Additional Info
Path	String	Input	Path of the CSV file Ex.: C:\~\Car.csv
ColumnCount	Numeric	Input	Count of columns available in CSV file being provided with input data
InputColumnNames	String	Input	Name of columns being provided in CSV file. For example 'Choice','Hsg2','Coml5','Type1','Type2','Fuel1','Fuel2','Price1','Price2','Range1','Range2','Acc1','Acc2','Speed1','Speed2','Cost1','Cost2'
InputColumnDataType	String	Input	Data Type of columns being provided in CSV file in the same order as column names. For example 'String','Numeric','Numeric','String','String','String','String','Numeric','Numeric','Num



			eric','Numeric','Numeric','Numeric','Numeric','Numeric','Numeric','Numeric','Numeric'
MissingNumberValueReplacement	String	Input	A value that can be used by Model in case CSV file has blank field/s or missing numerical value/s.
MissingStringValueReplacement	String	Input	A value that can be used by Model in case CSV file has blank field/s or missing string/character value/s.
ClusterCount	String	Input	Count of clusters to be made by the user Ex: 3/4/5 to any user defined number
IgnoreColumns	String	Input	Names of the column that model shall ignore while calculating customer segmentation. For example 'SNo','Range6' to any user defined input

Input Sample:

Choice	Hsg2	ComIs	Type1	Type2	Fuel1	Fuel2	Price1	Price2	Range1	Range2	Acc1	Acc2	Speed1	Speed2	Cost1	Cost2
choice1	0	0	van	regcar	cng	cng	4.175345	4.175345	250	250	4	4	95	95	4	4
choice2	1	1	regcar	van	methanol	methanol	3.310947	3.310947	125	125	2.5	2.5	85	85	4	4
choice5	1	0	regcar	truck	cng	cng	4.039575	4.039575	300	300	6	6	140	140	6	6
choice5	0	1	regcar	truck	methanol	methanol	7.065968	7.065968	200	200	4	4	100	100	8	8
choice5	1	0	regcar	truck	cng	cng	5.794157	5.794157	75	75	4	4	85	85	6	6
choice5	0	0	truck	regcar	cng	cng	3.532984	3.532984	300	300	6	6	85	85	6	6
choice2	1	1	regcar	van	methanol	methanol	1.927082	1.927082	125	125	6	6	100	100	8	8
choice5	0	1	regcar	van	methanol	methanol	6.070069	6.070069	125	125	6	6	85	85	1	1
choice5	0	0	sportuv	sportcar	methanol	methanol	3.067467	3.067467	125	125	2.5	2.5	65	65	4	4
choice2	0	0	regcar	truck	methanol	methanol	3.801738	3.801738	200	200	4	4	85	85	2	2
choice1	0	0	regcar	truck	methanol	methanol	4.138684	4.138684	200	200	4	4	55	55	2	2
choice2	1	0	truck	stwagon	methanol	methanol	3.323736	3.323736	125	125	4	4	85	85	2	2
choice5	0	0	sportcar	truck	methanol	methanol	5.460066	5.460066	200	200	4	4	85	85	8	8
choice5	0	0	regcar	stwagon	methanol	methanol	1.284722	1.284722	200	200	2.5	2.5	85	85	1	1
choice3	0	0	regcar	stwagon	methanol	methanol	4.690508	4.690508	200	200	4	4	65	65	1	1
choice6	0	0	truck	van	methanol	methanol	1.931386	1.931386	75	75	6	6	100	100	8	8
choice3	1	1	regcar	van	methanol	methanol	8.437131	8.437131	75	75	6	6	65	65	8	8
choice2	0	0	regcar	truck	methanol	methanol	1.022489	1.022489	200	200	2.5	2.5	85	85	8	8
choice3	1	0	van	regcar	methanol	methanol	3.310947	3.310947	125	125	4	4	100	100	1	1
choice5	0	1	regcar	stwagon	methanol	methanol	3.310947	3.310947	200	200	2.5	2.5	100	100	4	4
choice5	1	1	regcar	stwagon	methanol	methanol	5.955622	5.955622	125	125	2.5	2.5	65	65	4	4

Outputs:

1. Result in the form of the MS Excel. Viable customer segments/personas (5 clusters in given example) which is cluster output and segmental counts (for unique cluster identification)



Output Sample:

Sno	Choice	Hsg2	Coml5	Type1	Type2	Fuel1	Fuel2	Price1	Price2	Range1	Range2	Acc1	Acc2	Speed1	Speed2	Cost1	Cost2	cluster	counts
0	choice1	0	0	regcar	stwagon	methanol	methanol	0.963541	0.963541	125	125	2.5	2.5	85	85	1	1	3	1
1	choice1	0	0	regcar	stwagon	methanol	methanol	0.963541	0.963541	200	200	4	4	85	85	2	2	2	1
2	choice1	0	0	regcar	stwagon	methanol	methanol	1.187049	1.187049	125	125	6	6	85	85	6	6	3	1
3	choice1	0	0	regcar	stwagon	methanol	methanol	1.284722	1.284722	125	125	4	4	85	85	2	2	3	1
4	choice1	0	0	regcar	stwagon	methanol	methanol	1.488905	1.488905	200	200	2.5	2.5	100	100	4	4	2	1
5	choice1	0	0	regcar	stwagon	methanol	methanol	1.767314	1.767314	125	125	2.5	2.5	65	65	4	4	0	1
6	choice1	0	0	regcar	stwagon	methanol	methanol	1.927082	1.927082	125	125	6	6	100	100	1	1	3	1
7	choice1	0	0	regcar	stwagon	methanol	methanol	2.019787	2.019787	125	125	2.5	2.5	55	55	1	1	0	1
8	choice1	0	0	regcar	stwagon	methanol	methanol	2.207298	2.207298	125	125	4	4	85	85	2	2	3	1
9	choice1	0	0	regcar	stwagon	methanol	methanol	2.207298	2.207298	125	125	6	6	65	65	8	8	0	1
10	choice1	0	0	regcar	stwagon	methanol	methanol	2.248263	2.248263	125	125	6	6	55	55	2	2	0	1
11	choice1	0	0	regcar	stwagon	methanol	methanol	2.459948	2.459948	125	125	4	4	55	55	4	4	0	1
12	choice1	0	0	regcar	stwagon	methanol	methanol	2.964247	2.964247	125	125	2.5	2.5	100	100	4	4	3	1
13	choice1	0	0	regcar	stwagon	methanol	methanol	3.067467	3.067467	125	125	2.5	2.5	85	85	1	1	3	1
14	choice1	0	0	regcar	stwagon	methanol	methanol	3.310947	3.310947	125	125	2.5	2.5	85	85	1	1	3	1
15	choice1	0	0	regcar	stwagon	methanol	methanol	3.310947	3.310947	125	125	4	4	100	100	8	8	3	1
16	choice1	0	0	regcar	stwagon	methanol	methanol	3.310947	3.310947	200	200	2.5	2.5	55	55	1	1	2	1
17	choice1	0	0	regcar	stwagon	methanol	methanol	3.323736	3.323736	125	125	4	4	85	85	2	2	3	1
18	choice1	0	0	regcar	stwagon	methanol	methanol	3.354475	3.354475	200	200	6	6	100	100	1	1	2	1
19	choice1	0	0	regcar	stwagon	methanol	methanol	3.392783	3.392783	125	125	2.5	2.5	65	65	4	4	0	1
20	choice1	0	0	regcar	stwagon	methanol	methanol	3.532984	3.532984	125	125	6	6	100	100	1	1	3	1



4. Logs

Error Handling In case of Errors, Error Logs & Screenshots are generated within Error Folder.

Each Bot folder contains the below hierarchy.

- 1 Error Folder
 - 1.1 Logs
 - 1.1.1 ErrorLogsMonth-Day-Year.txt: In case of any error, this file logs error message along with timestamp
 - 1.2 Snapshots
 - 1.2.1 Error SnapMonth-Day-Year-Hour-Minute-SecondMillisecond.png: In case of any error, this file captures screenshot of error.

Task Status of bot is set to failed in case of error.



5. Troubleshooting & Support

5.1 Support

Please Email bot.support@nextgeninvent.com for any support related questions.



Appendix A - Record of Changes

Version #	Date of Change	Author	Notes
V1	March 12 th 2020	Nextgen Invent Corporation	

Appendix B - Acronyms

#	Acronym	Description
1.	AA	Automation Anywhere
2.	API	Application Programming Interface
3.	RAM	Random Access Memory
4.	OS	Operating System

Appendix C - References

#	Topic	Reference Link
1.	Nextgen Invent Corporation	https://www.nextgeninvent.com/

