



**Murder  
Accountability  
Project** ©

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## FEATURE DICTIONARY



**Master Research Project 2021 | 22**

Development of XAI-based framework to  
Understand, Predict and Link Homicides

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## Abstract

This document includes the knowledge gathered while analysing and preprocessing the Murder Accountability Project database of 2021 for a project aiming to create a model which is able to predict a killer profile based on given homicide information.

Discussions on which columns will be used in which ways, as well as a description of their meanings and values are included.

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# 1 Unused Features

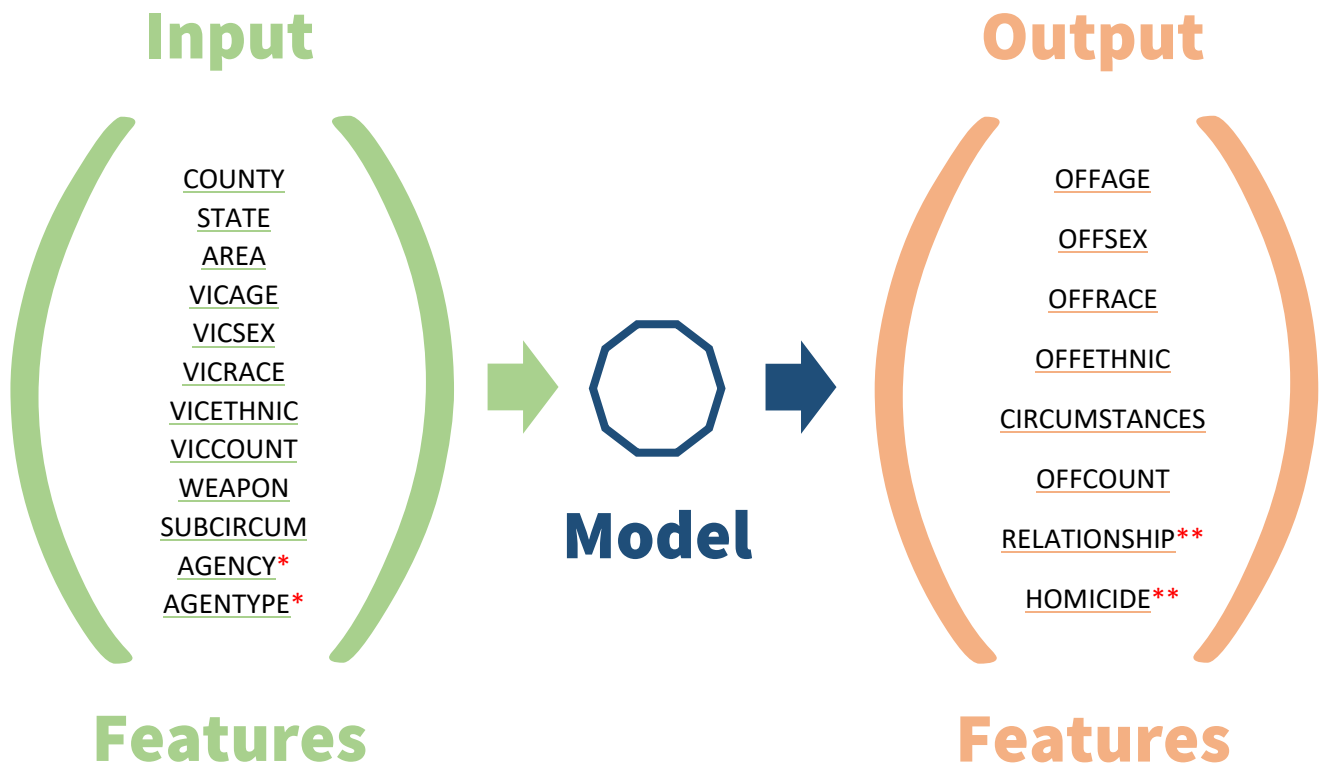
For several reasons, some of the columns in the database are not relevant in for further use in our project. The different types of unconsidered features will be briefly discussed in the following.

First of all, the Murder Accountability Project's dataset includes some redundant information. For instance, the column [Situation](#) combines the information presented as VicCount and OffCount.

In addition to that, some generally important features, like the [ID](#), are not representing information relevant to solving a crime.

Other features, for example the [Incident](#) which gives each homicide in a certain month a specific number, seem to be mentioned for burocratic reasons, not because they are relevant to crime solving.

## 2 Used Features



\* = relevance to be determined

\*\* = inspect possible availability for use as input features

## Other relevant Features

FILEDATE

used to determine the order in a continuation of records

SOLVED

used to split the dataset into solved | unsolved cases

ACTIONTYPE

marks a record as being part of a continuation records series

### 3 Feature Definitions

Feature	Meaning	Values   Format + Example
<b>ID</b>	Unique record identifier (generated based on <a href="#">Year</a> , <a href="#">Month</a> , <a href="#">Incident</a> , <a href="#">Ori</a> )	Format: Alphanumeric 16-character Example: 199802001AK00101
<b>CNTYFIPS</b>	Census Bureau's Federal Information Processing Standards code designating state and county of reporting law enforcement agency	Format: csv String Example: Anchorage, AK
<b>Ori</b>	Originating Agency making the report (includes <a href="#">State</a> , <a href="#">County</a> , <a href="#">Number</a> )	Format: Alphanumeric 7-character Example: AK00101
<b>State</b>	state of the Originating Agency making the report	Format: 2-digit abbreviation Example: AK (=Alaska)
<b>Agency</b>	name of the law enforcement agency making the report	Format: alphanumeric variable Example: Prattville
<b>Agentype</b>	type of law enforcement agency making the report	Values: <ul style="list-style-type: none"> <li>- Sheriff</li> <li>- County police</li> <li>- Municipal police</li> <li>- Primary state LE</li> <li>- Special police</li> <li>- Constable (not found)</li> <li>- Tribal</li> <li>- Regional police</li> </ul>
<b>Source</b>	Origin of the record	Values: <ul style="list-style-type: none"> <li>- FBI</li> <li>- MAP (= other, non-FBI)</li> </ul>
<b>Solved</b>	generated indicator whether Offender was identified at time report was made	Values: <ul style="list-style-type: none"> <li>- No</li> <li>- Yes</li> </ul>
<b>Year</b>	Year of homicide (or when victim's body was recovered)	Format: Numeric four digit Example: 1981
<b>StateName</b>	State of the reporting agency	Format: Alphanumeric 6-character (original FBI naming and abbreviating scheme) Example: ALABAM (=Alabama)
<b>Month</b>	The month of homicide occurrence or when the victim's body was recovered	Values: <ul style="list-style-type: none"> <li>- January</li> <li>- February</li> <li>- ...</li> <li>- December</li> </ul>
<b>Incident</b>	case number within the month in which a homicide occurred (used to assist in building a unique record number for each case)	Format: three-digit number Example: 12
<b>ActionType</b>	nature of the report received	Values: <ul style="list-style-type: none"> <li>- Normal update</li> <li>- Adjustment</li> </ul>

Feature	Meaning	Values   Format + Example
<b>Homicide</b>	defines whether the reported homicide was committed intentionally	Values: <ul style="list-style-type: none"> <li>- Murder and non-negligent manslaughter</li> <li>- Manslaughter by negligence</li> </ul>
<b>Situation</b>	defines whether the crime had a single victim/multiple victims and whether there was a single offender, multiple offenders or the number of offenders was unknown	Values: <ul style="list-style-type: none"> <li>- Single victim/unknown offender(s)</li> <li>- Single victim/single offender</li> <li>- Single victim/multiple offenders</li> <li>- Multiple victims/single offender</li> <li>- Multiple victims/multiple offenders</li> <li>- Multiple victims/unknown offender(s)</li> </ul>
<b>VicAge</b>	Age of the victim (in years)	Values: <ul style="list-style-type: none"> <li>- 0 (=newborn or infant)</li> <li>- 1 – 98 (=actual age in years)</li> <li>- 99 (=age of 99 or older)</li> <li>- 999 (=age unknown)</li> </ul>
<b>VicSex</b>	represents the victim's gender	Values: <ul style="list-style-type: none"> <li>- Male</li> <li>- Female</li> <li>- Unknown</li> </ul>
<b>VicRace</b>	represents the victim's race	Values: <ul style="list-style-type: none"> <li>- Black</li> <li>- White</li> <li>- Asian</li> <li>- American Indian or Alaskan Native</li> <li>- Native Hawaiian or Pacific Islander</li> <li>- Unknown</li> </ul>
<b>VicEthnic</b>	represents whether the victim was Hispanic ! many agencies decline reporting the ethnicity of victims and offenders	Values: <ul style="list-style-type: none"> <li>- Hispanic origin</li> <li>- Not of Hispanic origin</li> <li>- Unknown or not reported</li> </ul>
<b>OffAge</b>	Age of the offender (in years)	Values: <ul style="list-style-type: none"> <li>- 0 (=newborn or infant)</li> <li>- 1 – 98 (=actual age in years)</li> <li>- 99 (=age of 99 or older)</li> <li>- 999 (=age unknown)</li> </ul>
<b>OffSex</b>	represents the offender's gender	Values: <ul style="list-style-type: none"> <li>- Male</li> <li>- Female</li> <li>- Unknown</li> </ul>
<b>OffRace</b>	represents the offender's race	Values: <ul style="list-style-type: none"> <li>- Black</li> <li>- White</li> <li>- Asian</li> <li>- American Indian or Alaskan Native</li> <li>- Native Hawaiian or Pacific Islander</li> <li>- Unknown</li> </ul>

Feature	Meaning	Values   Format + Example
<b>OffEthnic</b>	represents whether the offender was Hispanic ! many agencies decline reporting the ethnicity of victims and offenders	Values: <ul style="list-style-type: none"> <li>- Hispanic origin</li> <li>- Not of Hispanic origin</li> <li>- Unknown or not reported</li> </ul>
<b>Weapon</b>	weapon used in the crime	Values: <ul style="list-style-type: none"> <li>- Handgun - pistol, revolver, etc</li> <li>- Shotgun</li> <li>- Knife or cutting instrument</li> <li>- Blunt object - hammer, club, etc</li> <li>- Rifle</li> <li>- Personal weapons, includes beating</li> <li>- Firearm, type not stated</li> <li>- Drowning</li> <li>- Narcotics or drugs, sleeping pills</li> <li>- Strangulation - hanging</li> <li>- Fire</li> <li>- Asphyxiation - includes death by gas</li> <li>- Explosives</li> <li>- Poison - does not include gas</li> <li>- Pushed or thrown out window</li> <li>- Other gun</li> <li>- Other or type unknown</li> </ul>
<b>Relationship</b>	describes the relationship between the victim and the offender, if any	Values: <ul style="list-style-type: none"> <li>- In-law</li> <li>- Son   Stepson</li> <li>- Daughter   Stepdaughter</li> <li>- Wife   Ex-wife   Common-law wife</li> <li>- Husband   Ex-husband   Common-law husband</li> <li>- Boyfriend   Girlfriend</li> <li>- Homosexual relationship</li> <li>- Mother   Stepmother</li> <li>- Father   Stepfather</li> <li>- Brother   Sister</li> <li>- Other family</li> <li>- Friend</li> <li>- Neighbor</li> <li>- Acquaintance</li> <li>- Other - known to victim</li> <li>- Employee</li> <li>- Employer</li> <li>- Stranger</li> <li>- Relationship not determined</li> </ul>

Feature	Meaning	Values   Format + Example
<b>Circumstances</b>	represents the circumstances (or theory) for the crime	Values: <ul style="list-style-type: none"> <li>- Brawl due to influence of alcohol</li> <li>- Robbery</li> <li>- Felon killed by police</li> <li>- Felon killed by private citizen</li> <li>- Lovers triangle</li> <li>- Argument over money or property</li> <li>- Gambling</li> <li>- Child killed by babysitter</li> <li>- Gun-cleaning death - other than self</li> <li>- All suspected felony type</li> <li>- Burglary</li> <li>- Narcotic drug laws</li> <li>- Gangland killings</li> <li>- Rape</li> <li>- Arson</li> <li>- All other manslaughter by negligence</li> <li>- Motor vehicle theft</li> <li>- Brawl due to influence of narcotics</li> <li>- Children playing with gun</li> <li>- Sniper attack</li> <li>- Victim shot in hunting accident</li> <li>- Prostitution and commercialized vice</li> <li>- Institutional killings</li> <li>- Larceny</li> <li>- Juvenile gang killings</li> <li>- Abortion</li> <li>- Other negligent handling of gun</li> <li>- Other arguments</li> <li>- Other sex offense</li> <li>- Other</li> <li>- Other - not specified</li> <li>- Circumstances undetermined</li> </ul>
<b>Subcircum</b>	describes several conditions in which the victim is reported to have been a criminal offender	Values: <ul style="list-style-type: none"> <li>- Felon resisted arrest</li> <li>- Felon killed in commission of a crime</li> <li>- Felon attacked police officer</li> <li>- Not enough information to determine</li> <li>- Felon attempted flight from a crime</li> <li>- Felon attacked a civilian</li> <li>- Felon attacked fellow police officer</li> <li>- Unknown</li> </ul>



Feature	Meaning	Values   Format + Example
<b>VicCount</b>	number of additional victims (not counting the victim included in the current record) included in the Supplementary Homicide Report's incident record, which can accept up to 10 additional victims in a single incident report (additional records might need to be created)	Format: number Example: 21
<b>OffCount</b>	number of additional offenders (not counting the offender included in the current record) included in the Supplementary Homicide Report's incident record, which can accept up to 10 additional offenders in a single incident report (no additional records created, only the first offender is mentioned)	Format: number Example: 4
<b>FileDate</b>	date a record was reported (in some cases estimated)	Format: Alphanumeric 6-digit Example: 030180 (=March 1, 1980)
<b>MSA</b>	Census Bureau's Federal Information Processing Standards code for the Metropolitan Statistical Area from which a record was reported	Format: label Example: Anniston-Oxford, AL

Note: the descriptions and values are based on the documents published on  
<http://www.murderdata.org/p/data-docs.html>.