Death Penalty Database

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Abstract: This article discusses the design and future implementation of a Death Penalty Database that can be used for research that can change the way the Criminal Justice System functions. This project was completed using software such as pgadmin4, Falcon, and Python. I will discuss the challenges and ideas for future enhancement of the project.

Keywords: death penalty, executed, innocent, database

METHODS

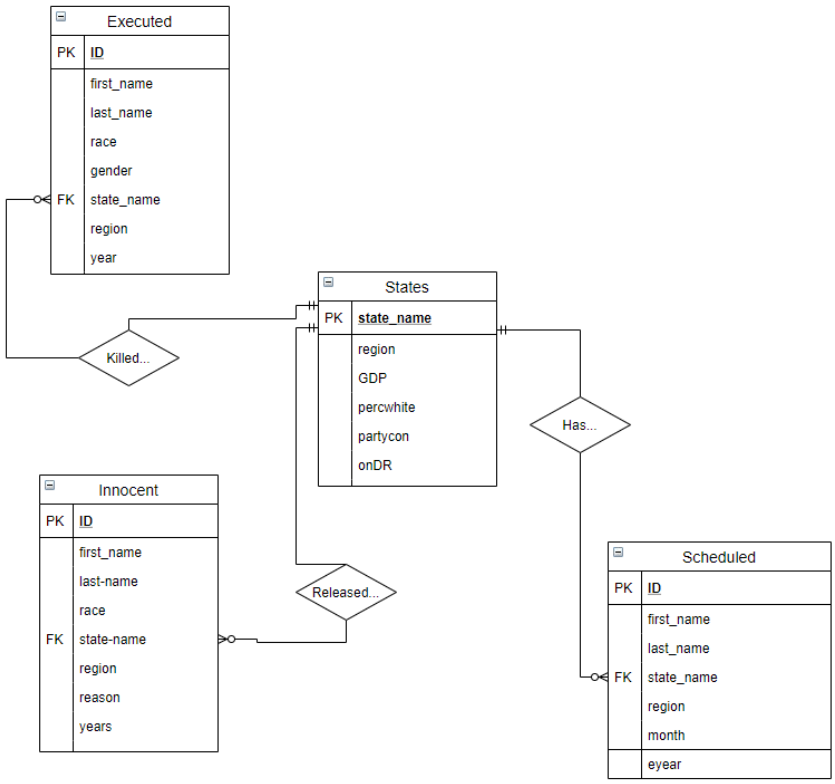
Data was collected by using the Death Penalty Information Center for the data on those who were executed, released, the numbers on who is on death row, and those scheduled for execution, Bureau of Economic Analysis for data on the states economic data and GovTrack.us for the state's political data. I used pgadmin4 to create the relations and input the data followed by connecting the database server with an application server called Falcon in order to create graphs and charts using SQL queries. I then created a web application by using the Django program in Python to have the graphs, charts and tables viewable on a local host server.

RESEARCH DESIGN

Database Model

In Figure 1, I present the Entity-Relationship Model (then ER-Model). The ER-Model of the death penalty database is not yet complete. To start I created four relations that are important to death penalty research. I included those who have been executed in the relation "Executed," those who have been released and deemed innocent in the relation "Innocent," those who are scheduled for execution in the relation "Scheduled," and a relation called "States" that has all of the information about the fifty states in the United States. The attributes included under the "Executed" relation are: ID, first name, last name, race of the deceased, gender of the deceased, state name where the execution took place, region of the state, and the year of the execution. The attributes included under the "Innocent" relation are: ID, first name, last name, race of the innocent, state name where they were released, region of the state, and the amount of years spent on death row, while innocent. The attributes included under the "Scheduled" relation are: ID, first name, last name, state where the execution is scheduled, region of the state, and month and year of the scheduled execution. The attributes included under the "State" relation are: the state name, state region, state GOP, percentage of the state population that is non-Hispanic white, percent of the state population that are living in poverty, the political party that is in control of the state, and the amount of state prisoners currently on death row. I chose these relations for the database because I could not fine a web application that contained this information.

Figure 1. ER- Model of Death Penalty Database



Application Server

Once the ER-Model was created and the data were inputted into pgadmin4, I connected the database to a program called “Falcon” in order to create graphs and charts that would aid in illustrating the data. In Figure 2 and Figure 3, I present a bar chart that depicts the amount of people released from death row by race, and the amount of those who have been executed by race. In Figure A.1 and Figure A.2, which are available in the Appendix, I present a bar chart that illustrates those who have been deemed innocent and released by region, as well as those who have been executed by region. In Figure 4, I present a bar chart that describes the reasons for why prisoners have been found innocent. The reasons range from perjury and false confession to false accusations, and official misconduct. In Figure 5, I present a scatterplot of the amount of years that were spent on death row while being innocent by race.

Figure 2. Number of Innocent by Race

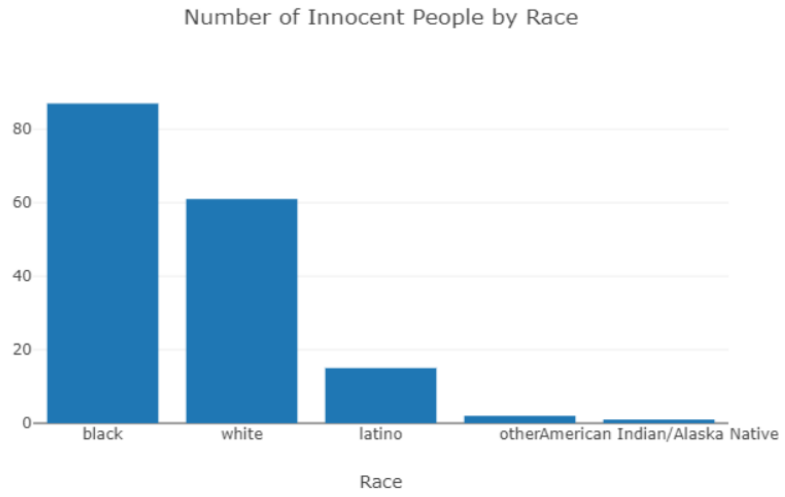


Figure 3. Number of Executed Prisoners by Race

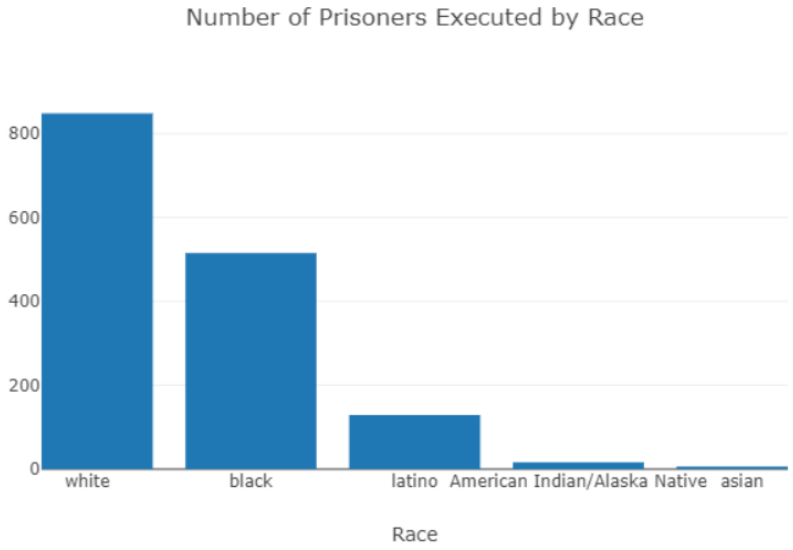


Figure 4. Reasons for Innocence and Release

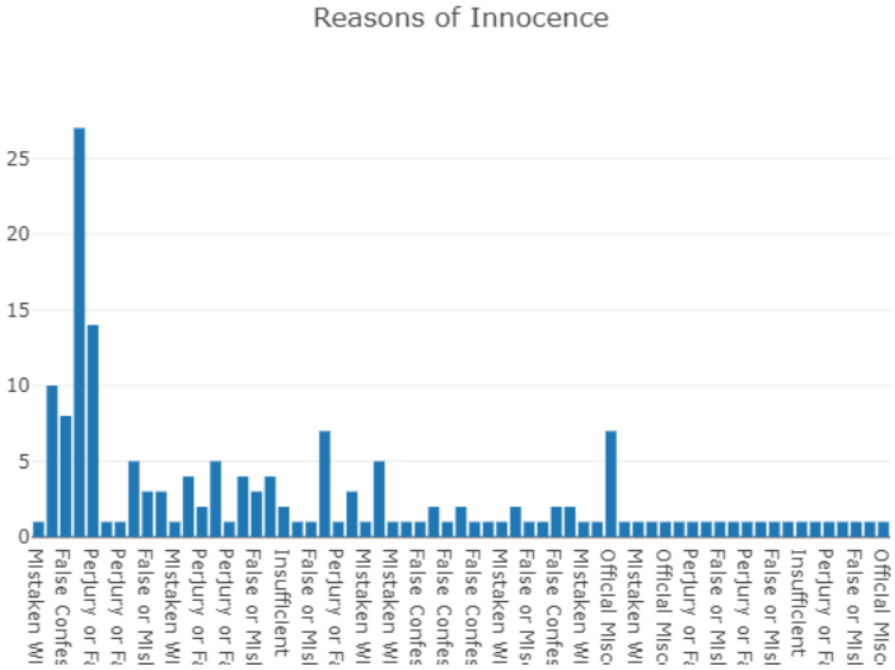
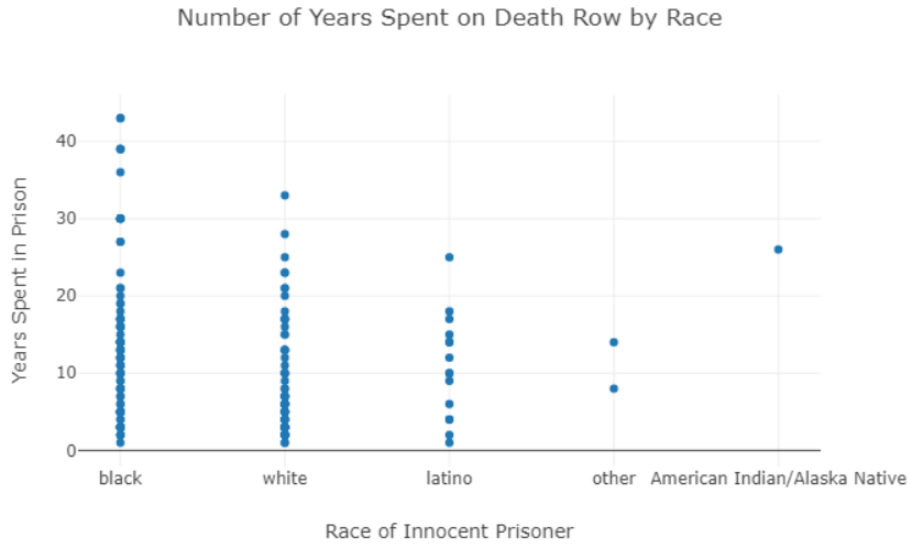


Figure 5. Number of Years Spent on Death Row



Web Application

Once I had the application server up and running, I used a location-based web application by using Django on Python. I was able to display the tables for each relation and the Figures 2-5, and Figures A.1-A.2. The tables of each relation will be available in the Appendix of the article (Table 1-3); they are not the full tables because of the size of the data. There also is not a Table 4 for the Execution relation. The attributes for the Innocent relation can be seen as the column headings as follows: ID, first name, last name, race of the innocent, state name where they were released, region of the state, and the amount of years spent on death row, while innocent. The attributes for the Scheduled relation can be seen as the column headings as follows: ID, first name, last name, state where the execution is scheduled, region of the state, and month and year of the scheduled execution. The attributes for the State relation can be seen as the column headings as follows: the state name, state region, state GOP, percentage of the state population that is non-Hispanic white, percent of the state population that are living in poverty, the political party that is in control of the state, and the amount of state prisoners currently on death row.

FUTURE DEVELOPMENTS

In the future, I would like to be able to get the Executed table up and running and get some more complex tables that might compare information from more than 2 relations so that instead of having one chart output for each relationship, there is one chart output for both relationships. Also, there were complications with creating certain graphs because Falcon would graph each observation rather than plot the relationship of the data. I would like to add attributes to the Innocent relation. Instead of having all the reasons they were released listed under the reason attribute, I will add “Reason 1”, “Reason 2”, etc. to help graph the information better or I could create a whole other relation for reason of innocence. I would like to add more relations and data to the project. I would add a relation for the victims of the prisoners. It might be interesting to some researchers to see what racial group commits more interracial murder versus intra-racial murder.

CONCLUSION

In conclusion, I chose to create this database and web application because I am passionate about the criminal justice system and believe this project can help aid in research on issues related to the death penalty and lead to reform. The data output that will be available through the web application would allow for policymakers to view the true numbers and the effects of the death penalty in a regional and national level. This would permit them to make changes to policy that are clearly needed. In Figures 2, the chart shows that there in fact is a racial disparity on death row. Blacks make up majority of those who are innocent. This means that there is a problem with the criminal justice system, not to mention that almost 10 percent of those who are sentenced to death were then released as innocent. Ten percent is too large of a number. There cannot be zero percent error due to human error, however there should be policy changes in order to lower the error percent to be lower than it is. Figure 3 likely shows that blacks are being executed at higher numbers than any other race. Yes, in raw numbers, the racial group with the most executions are those who are white, however blacks are above half the number of whites executed while only making up about 12% of the nation's population. That is not right. We know that blacks are the racial group that are released from death row above all other groups (Figure 2). There is no surprise then that they serve more years in death row as while being innocent than any thither racial group (Figure 5). There are laws that allow for reparation payments for those who are found innocent to pay back for their missed time and life. Yet, the reparations are not enough. If policymakers saw the real number of years that people's lives are taken from them, maybe they would be willing to make a law that allows for more benefits or aid for those who were imprisoned for many years. Figure 4 and Table A.2 make it evident that there are plenty of issues in the criminal justice system. Another purpose for this database is to hopefully push for legislation or change of protocol in departments who are responsible for the wrongful conviction or even wrongful execution of citizens. People need to be held accountable for their mistakes. Examples would include police departments who get false confessions, forensic scientists whom give misleading or false forensic evidence, or lawyers and judges whom show official misconduct. People should not just get a slap on the wrist for because they are in position of power; that very reason

should receive a harsh punishment so those mistakes do not reoccur. My final vision for this project would be to get a website running with an interactive map that allows for the user to select what state or states they would like to receive information on. A comparing option would be great to have so comparisons can be made by state. These options would also be available for any attribute such as region, race, gender, etc. There will be a search box that allows for searches by keywords. The user will be able to search by state, region, etc. Lastly, I would like to have an area where users, who might not be researchers, can undertake doing their own research to inform themselves more on the death penalty and the effects of the death penalty.

APPENDIX

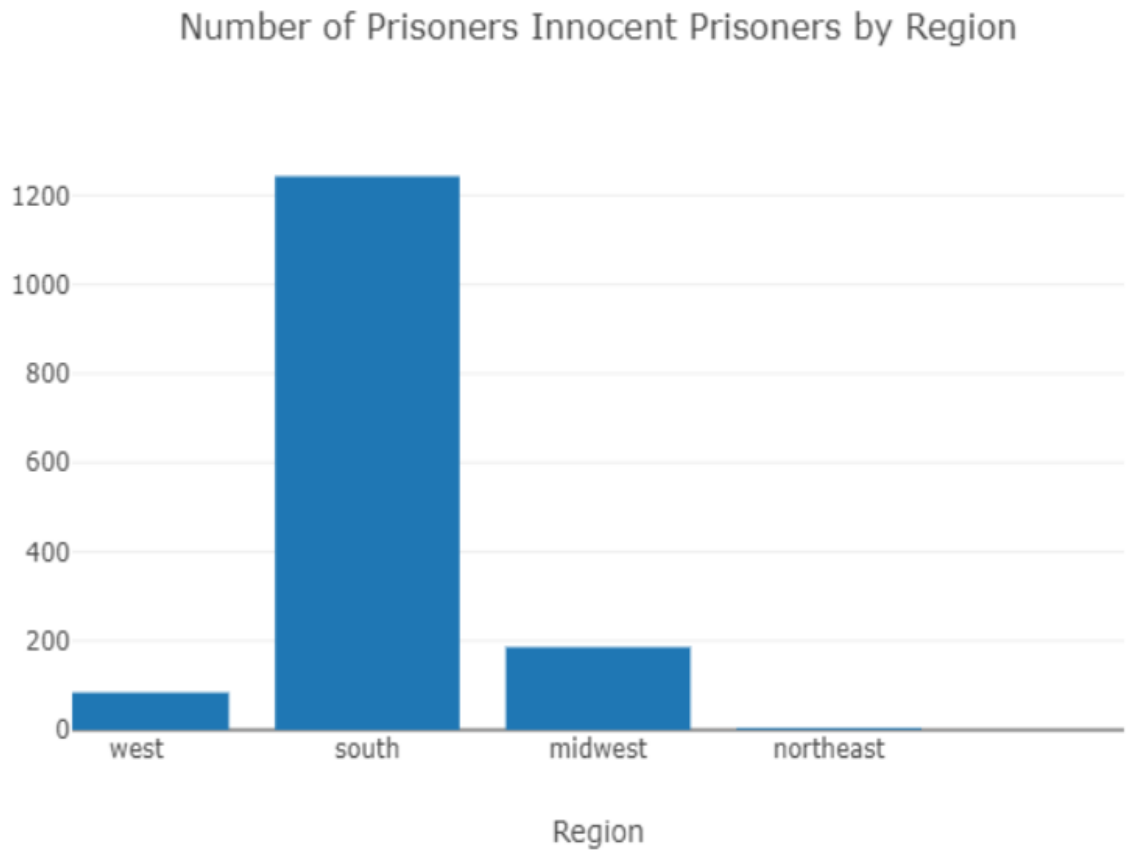


Figure A.1. Number of Innocent by Region

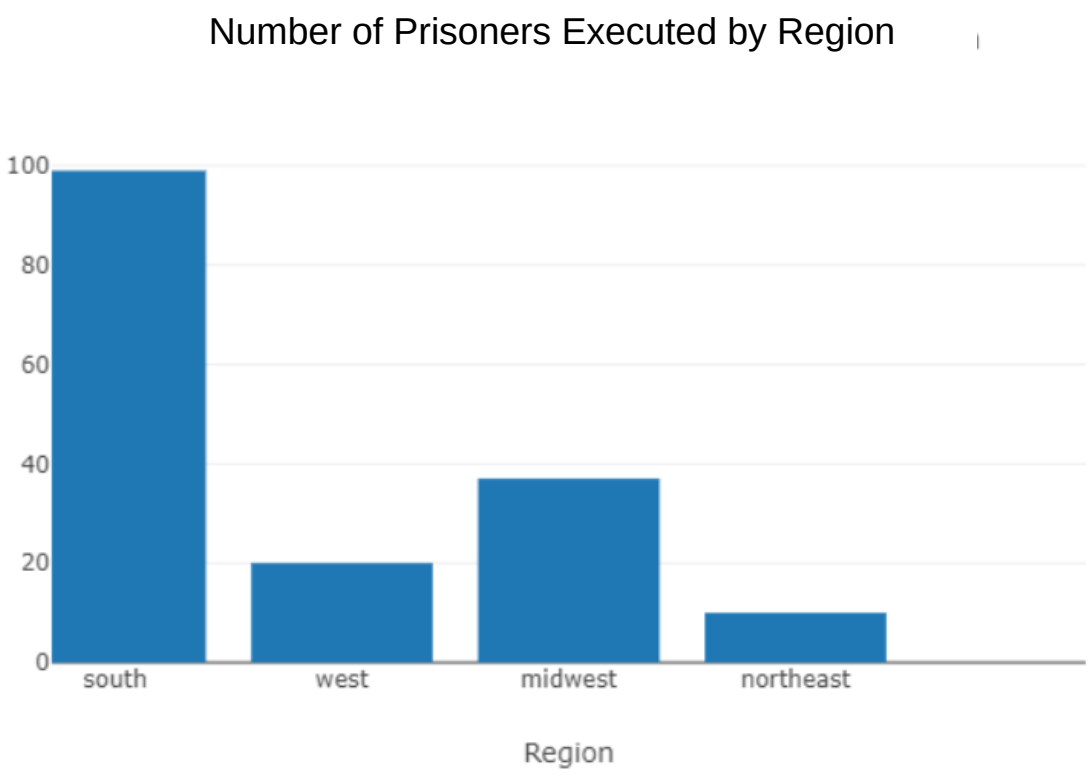


Figure A.2. Number of Prisoners Executed by Region

State	Region	GDP	WhitePercentage	PovertyPercentage	PartyinControl	NumberonDR
Alabama	south	202940	66	17	Republican	175
Alaska	west	54443	61	11	Republican	0
Arizona	west	321432	55	16	Democrat	119
Arkansas	south	119443	72	17	Republican	31
California	west	2792029	37	14	Democrat	725
Colorado	west	353077	68	11	Democrat	3
Connecticut	northeast	248819	67	10	Democrat	0
Delaware	northeast	63280	62	12	Democrat	0
Florida	south	950759	54	15	Republican	347
Georgia	south	539536	53	16	Republican	48
Hawaii	west	83509	22	10	Democrat	0
Idaho	west	72494	82	14	Republican	8
Illinois	midwest	782019	61	13	Democrat	0
Indiana	midwest	332041	79	14	Republican	8
Iowa	midwest	173688	86	11	Split	0
Kansas	midwest	155944	76	12	Republican	10
Kentucky	south	189366	85	17	Republican	28
Louisiana	south	240475	59	19	Republican	69
Maine	northeast	58528	93	12	Democrat	0
Maryland	south	374386	51	9	Democrat	0
Massachusetts	northeast	518719	72	10	Democrat	0
Michigan	midwest	473860	75	15	Democrat	0
Minnesota	midwest	338752	80	10	Democrat	0
Mississippi	south	104209	57	20	Republican	43
Missouri	midwest	290956	79	14	Republican	0
Montana	west	47181	86	13	Republican	2
Nebraska	midwest	114877	79	11	Republican	12
Nevada	west	154139	49	13	Democrat	74
New Hampshire	northeast	77873	90	8	Democrat	1
New Jersey	northeast	563950	55	10	Democrat	0
New Mexico	west	97092	37	20	Democrat	0
New York	northeast	1461559	55	14	Democrat	0
North Carolina	south	508625	63	15	Republican	145
North Dakota	midwest	54100	84	11	Republican	0
Ohio	midwest	615600	79	14	Republican	141
Oklahoma	south	201314	66	16	Republican	46
Oregon	west	222384	76	14	Democrat	31
Pennsylvania	northeast	728018	76	12	Split	147
Rhode Island	northeast	55048	72	13	Democrat	0
South Carolina	south	213451	64	16	Republican	40
South Dakota	midwest	46810	82	13	Republican	1
Tennessee	south	330802	74	16	Republican	52
Texas	south	1788527	42	15	Republican	218

Table A.1. State Relation

Innocent	Race	State	Region	Reason	Years
2001	black	Florida	south	Mistaken Witness ID and False Confession	2
2002	black	North Carolina	south	Insufficient Evidence	1
2003	black	Florida	south	False Confession, Perjury or False Accusation and Official Misconduct	12
2004	black	Florida	south	False Confession, Perjury or False Accusation and Official Misconduct	12
2005	white	Georgia	south	Perjury or False Accusation and Official Misconduct	2
2006	black	North Carolina	south	Perjury or False Accusation	2
2007	white	New Mexico	west	Perjury or False Accusation and Official Misconduct	2
2008	white	New Mexico	west	Perjury or False Accusation and Official Misconduct	2
2009	white	New Mexico	west	Perjury or False Accusation and Official Misconduct	2
2010	white	New Mexico	west	Perjury or False Accusation and Official Misconduct	2
2011	black	Florida	south	Perjury or False Accusation and Mistaken Witness ID	3
2012	black	Georgia	south	Perjury or False Accusation, Official Misconduct and Mistaken Witness ID	3
2013	white	Arizona	west	False or Misleading Forensic Evidence	3
2014	white	Ohio	midwest	Perjury or False Accusation	3
2015	black	Georgia	south	False or Misleading Forensic Evidence, Official Misconduct and Inadequate Legal Defense	5
2016	black	Indiana	midwest	Perjury or False Accusation and Inadequate Legal Defense	2
2017	black	Oklahoma	south	Insufficient Evidence	3
2018	white	South Carolina	south	False or Misleading Forensic Evidence	2
2019	black	Louisiana	south	Mistaken Witness ID, False Confession, Perjury or False Accusation, False or Misleading Forensic Evidence, Official Misconduct and Inadequate Legal Defense	6
2020	black	California	south	Official Misconduct	5
2021	latino	Florida	south	Insufficient Evidence	1
2022	black	Massachusetts	northeast	Perjury or False Accusation	11
2023	white	Mississippi	south	Insufficient Evidence	1
2024	black	Florida	south	Perjury or False Accusation	3
2025	white	Pennsylvania	northeast	Perjury or False Accusation, Mistaken Witness ID and Official Misconduct	4
2026	white	Oklahoma	south	Mistaken Witness ID and Official Misconduct	5
2027	black	Florida	south	Perjury or False Accusation, False or Misleading Forensic Evidence, Official Misconduct and Inadequate Legal Defense	13
2028	black	Illinois	midwest	Perjury or False Accusation and Official Misconduct	8
2029	black	Illinois	midwest	Perjury or False Accusation and Official Misconduct	8
2030	white	Texas	south	Inadequate Legal Defense	10
2031	black	Florida	south	False or Misleading Forensic Evidence	9

Table A.2. Innocent Relation

Scheduled	State	Region	Month	Year
2001	Alabama	south	March	2020
2002	Ohio	midwest	No Date	2020
2003	Texas	south	September	2020
2004	Ohio	midwest	May	2021
2005	Pennsylvania	northeast	Stayed	2020
2006	Texas	south	Mays	2020
2007	Texas	south	Mays	2020
2008	Ohio	midwest	February	2022
2009	Ohio	midwest	September	2021
2010	Texas	south	June	2020
2011	Texas	south	July	2020
2012	Texas	south	May	2020
2013	Texas	south	May	2020
2014	Ohio	midwest	No Date	2020
2015	Ohio	midwest	January	2022
2016	Missouri	midwest	May	2020
2017	Pennsylvania	northeast	June	2020
2018	Tennessee	south	February	2021
2019	Texas	south	June	2020
2020	Ohio	midwest	March	2022
2021	Ohio	midwest	No Date	2020
2022	Ohio	midwest	May	2022
2023	Tennessee	south	August	2020
2024	Ohio	midwest	July	2022
2025	Texas	south	September	2020
2026	Ohio	south	September	2020
2027	Ohio	south	April	2022
2028	Tennessee	south	October	2020
2029	Ohio	midwest	October	2020
2030	Ohio	midwest	Stayed	2017
2031	Tennessee	south	December	2020
2032	Ohio	midwest	December	2020
2033	Ohio	midwest	January	2021
2034	Ohio	midwest	Stayed	2017
2035	Ohio	midwest	February	2021
2036	Ohio	midwest	No Date	2020
2137	Ohio	midwest	April	2021
2038	Ohio	midwest	June	2021
2039	Ohio	midwest	August	2021
2040	Ohio	midwest	October	2021
2041	Ohio	midwest	December	2021
2042	Ohio	midwest	June	2022
2043	Ohio	midwest	No Date	2020

Table A.3. Prisoners Scheduled for Execution