MSDS692_CGREEN_Final Project Wordcloud Code

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1 MSDS692 - Chris Green - Word Cloud Generator

I used the text from two articles on terrorism to generate a wordcloud for my presentation.

1.1 Import Packages and Load Text

```
[1]: !conda install -c conda-forge pyldavis -y
     !conda install -c conda-forge gensim -y

     import pandas as pd
     import numpy as np
     import matplotlib.pyplot as plt
     import seaborn as sns
     import nltk
     from nltk.stem import WordNetLemmatizer
     from nltk.corpus import stopwords
     from nltk.corpus import stopwords, words

     from wordcloud import WordCloud
     from nltk.tag import pos_tag
     from collections import Counter

     import warnings
     warnings.filterwarnings("ignore")
     %matplotlib inline
     sns.set()
```

```
Collecting package metadata (current_repodata.json): done
Solving environment: done

# All requested packages already installed.

Collecting package metadata (current_repodata.json): done
Solving environment: done

# All requested packages already installed.
```

```
[3]: terror = open('Terrorism2.txt')
     terr_text = terror.read()
     terror.close()
```

1.2 Prepare Text

1.2.1 Remove /n Line Breaks

```
[4]: terr_text2 = terr_text.replace("\n", " ")#https://www.kite.com/python/answers/
     ↪how-to-remove-all-line-breaks-from-a-string-in-python
```

1.2.2 Text to Lower Case

```
[5]: terr_text3 = terr_text2.lower()
```

1.2.3 Remove Punctuation

```
[6]: import re
     terr_text4 = re.sub(r'[^\w\s]', '', terr_text3) #https://www.geeksforgeeks.org/
     ↪python-remove-punctuation-from-string/
```

1.2.4 Remove Digits

```
[7]: terr_text5 = re.sub(r'[0-9]', '', terr_text4) #https://thispointer.com/
     ↪python-remove-all-numbers-from-string/
```

1.2.5 Remove Extra Spaces

```
[8]: terr_text6 = re.sub(' +', ' ', terr_text5) #https://www.geeksforgeeks.org/
     ↪python-remove-unwanted-spaces-from-string/
```

1.2.6 Remove Stop Words

```
[9]: from gensim.parsing.preprocessing import remove_stopwords #https://stackabuse.
     ↪com/removing-stop-words-from-strings-in-python/
     terr_text_final = remove_stopwords(terr_text6)
     terr_text_final
```

```
[9]: 'series coordinated suicide bombings sri lankan churches luxury hotels carried
     islamic organization easter sunday killing people appalling act terrorism agree
     killing washington post columnist jamal khashoggi act terrorism deliberate act
     motivated religious political objectives alleged turkish officials othersi
     slaying intentionally orchestrated saudi government act state terrorism thats
     basic today years modern terrorism counterterrorism international community
     agree single definition terrorism despite daily threats posed states definition
     conundrum prevents agreed classification better facilitate fight terrorism
```

thwart public legitimacy terrorist organizations seek problem accurately acceptably defined easier solve terrorism overly term heard different discourses contexts general public course academic political legal debates mention constantly referenced media feasible verse universal definition discourses terms key criteria agreed terrorism derogatory connotations want associated ambiguous concept lends opportunistic referrals affords vehement condemnation geopolitical spectrum ironically condemnation terrorism heard washington teheran agreement meaning term held accountable chaos carnage iranian leaders send condolences grieving jewish families pittsburghii shortly inciting wipe jewish state mapiii terrorism intolerable hits deemed justified understandable hits states agree worlds common red line definitions conceptualization perspectives alex schmid forefather terrorism studies dissected issue presented distinct definitions terrorism different elements ascribed terrorism common useiv decade later walter laqueur carried similar study observing generally agreed terrorism involves violence threat violencev decades later context wideranging handbook terrorism schmid easson compiled different definitions unable point universal consensus onevi united states different definitions given different agenciesvii reason lack agreement defining terrorism contextual meaning term changed frequently past yearsviii terrorism deviated original focus statesponsored violence designed induce fear terror enemies french revolution exact opposite political violence directed stateix late nineteenth early twentieth centuries prior world war terrorism refer anarchists leftwing social revolutionaries world war ii decline european empires terrorism linked violent methods colonial governments anticolonialist groups seeking selfdetermination issues dominated definition discussion international law discussions states commit acts terrorism ii distinguish terrorist freedom fighter struggling oppressive regime x states civilians noncombatants source david l ryan boston globe scene finish line th boston marathon bombs exploded significant elements evolution contemporary asymmetric conflicts especially studying subnational groups clandestine agents distinctions existed terrorism guerrilla warfare insurgency nonexistent public discoursexi past terrorist organizations usually small size limited strength guerrillas depicted able control territory exercise limited sovereignty populations insurgency considered sophisticated advanced form warfare typically terroristsxii today distinctions common discourse obsolete xiii assertion choice targets differentiate forms warfare deliberate choice targets attack civilians terrorist attack organization endorses attacks civilians written unwritten charter terrorist organization considered terrorist organizations paramilitary advanced military capabilities apply guerrilla tactics carry sophisticated insurgent operations military civilian targets attack carried terrorist organization act terrorism notwithstanding organization deliberately targets civilians considered terrorist organization al qaeda hezbollah examples organizations lone attacker affiliated recognized organization antisemite white supremacist islamophobe targets civilians disturbing ideology terrorist case point man recently slaughtered jewish worshipers civilians pittsburgh pennsylvania belong organizationxiv march massacre mosques christchurch new zealand example bruce hoffman americas leading scholar terrorism studies defines terrorism classic textbook deliberate creation exploitation fear violence threat

violence pursuit political changexv definition offers basis studying idiosyncrasies organizations individuals resort violence effort achieve political goals focusing political change excludes attacks revolutionary nature exploitation fear preserve existing political status quo repress change department defense provides similar definition includes religious ideological changexvi relies subjective assessment importantly counterterrorism perspective definitions isolate phenomenon civilized states confront deliberate targeting civilians individuals organizations states states exercise terror iran trains finances equips organizations like hezbollah target civilians sponsoring terrorism iranians carry attacks civilians like attacks amia argentina atrocities orchestrated syria recent years directly indirectly carrying acts terrorism categorized terrorist state slaying washington post columnist jamal khashoggi saudi act state terrorism considered decision kill deliberately saudi government strong relations including arms deals west common cause confront repugnant regime iran change premise palestinian authority providing financial rewards suicide bombers families sponsoring terrorism considered state terrorism aimed civilians considered internal external foes fact claimed far victims terrorism perpetrated nonstate actorsxvii lethality actions carried welltrained nonstate groups alqaeda tamil tigers hamas modest compared consequences stalins russia maos china pol pots cambodia saddam husseins iraq iran external stateinflicted war crimes addressed international law excluding state terrorism scope terrorism gets rogue states hookxviii obfuscating meaning terrorism ambiguous idea constitutes noncombatantxix deadly suicide attack uss cole october considered act terrorism attack carried alqaeda operatives yemens port aden killed american sailors injured morexx attack uss cole proved alqaedas operational credibility provided group media exposure served recruitment enhancer attack considered example law describes premeditated politicallymotivated violence perpetrated noncombatantsxxi considers sailors aboard american destroyer yemen combatants example illustrates sort confusion surrounds use noncombatants july hezbollah internationally recognized terrorist organization attacked number targets israels northern border lebanon killing israeli soldiers abducting wounding twoxxii hezbollahs attack act terrorism considers attacked soldiers combatants answer military attack like uss cole carried terrorist organization targets combatants presumed effective definitional variation edward peck chief mission iraq asked reagan white house task force terrorism draft definition terrorism expressed following opinion code title section reads international terrorism means activities quote appear intended affect conduct government mass destruction assassination kidnapping yes certainly think number countries involved activities israel terrorist course eye beholder xxiii bold added mr pecks proposition legitimizes terrorism casting subjective suggests terrorist act eye beholder statement mans terrorist mans freedom fighter difficult impediments coping terrorism particularly global effortxxiv attackers civilians buses aircrafts skyscrapers organizations represent viewed terrorists treated accordingly entire international communityxxv words target civilians regardless cause considered freedom fighters considered terrorists legal perspective immediately attacks security council unanimously passed resolution cooperate fight terrorxxvi leading numerous member

states pass legislation jurisdictions defined terrorism aimed facilitate confrontation international law definition reached numerous academic legal attempts define terrorism years suffer shortcomings use subjective adjectives long insufficiently inclusive inclusive shortcomings likely hampered ability reach consensus xxvii counterterrorismdriven definition terrorism challenge common terrorism studies thought boaz ganor israels leading scholar terrorism studies proposed short concise definition highlights counterterrorism practice prioritizes safeguarding civilians terrorism deliberate use violence aimed civilian targets nonstate actors order achieve political endsxxviii granted definition encompass attributes terrorism research warrants designate core threat terrorism challenge counter terrorism targeting safeguarding civilian society ganors definition built facilitate consensus key criteria terrorism proposed terrorism defined deliberate attack threat attack civilians andor civilian targets defend political religious objectivesxxix definition features key components account action definition states terrorism involves deliberate attack threat attack note use attack violence word commonly employed definitions rationale preferring attack violence exclude cyberwarfare actions cause mass disturbance destruction necessarily involve violence cyberattacks widespread growing threat cause physical harm populations power outages pollution infrastructure shutdowns type target definition declares terrorism involves action civilians andor civilian targets noncombatant broader scope leaves room interpretation manipulation use word civilian allows definition obtain wide international consensus motivation suggested definition states terrorism involves attempt political religious objectives feel motivation attack irrelevant component serves differentiate terrorist actions common criminal acts furthermore limiting definition political objectives consideration attacks carried fundamentalists seek impose religious beliefs necessarily interested political power importantly proposed definition limit term attacks carried nonstate actors number state actors sponsor directly practice terrorism international legal framework address principle distinction involved armed conflict distinguish combatants civilians laws governing crimes humanity sufficient state policy deliberately targeting civilians considered terrorism state iran statexxx furthermore killing washington post columnist jamal khashoggi deliberate act orchestrated saudi government fact considered act state terrorism consensus civilians key criterion premeditated killing civilians carried daily past years syria decade parts pakistan yemen libya nigeria kenya iraq terrorist attacks causing civilian casualties attack occurred locations alonexxxi easter sunday hit sri lanka civilians legitimate targets regardless attacker studies indicate avoiding minimizing civilian casualties increases counterterrorism effectivenessxxxii similarly militants reach political goals refrained targeting civilians terrorism key criterion protecting lives civilians universally agreed large extent terrorism years issue perception terms proponents antagonists sides participating victimized violencexxxiii civilians perceived attackers attacked alike illegitimate targets targeting civilians decreasexxxiv civilians faiths victims terrorism recent years stop time come level field judge actors states organizations individuals laws standards words winston churchill strive world strong respect rights weak xxxv applying

standards strong weak benefit held accountable actions silver lining arise khashoggi debacle international consensus set state deliberately attacks civilian example killing journalist expresses critical views states prince state considered committed terrorist act counterterrorism perspective ineffective prioritize diagnostic details attacks idiosyncrasies attackers attributes terrorism shelving judgement targeting civilians instead invest thought action confronting strategic threat need label clearly immoral unacceptable targeting civilians thatend terrorism global phenomenon easy recognise difficult define scholars world according socioeconomic political conditions affected social economic problems conceptualise terrorism conflict society haves nots experiencing use terror tactics gain political mileage consider political phenomenon apparently word terrorism interpreted suit different interests innumerable definitions terrorism definition appears correct perspective lacks important aspects terrorism words definitions represent components terrorism definitions analysed totality acceptable definition evolved multiple interpretations merely complicate definition terrorism encourages perpetrator escape economic deprivation freedom fighting matter fact terrorism continues pervade political acceptable definition punitive action perpetrator possible government international organisations scholars world entangled labyrinth terminology expressed different views widely acceptable definition offered yonah alexander defines terrorism use violence random civilian targets order intimidate create generalised pervasive fear purpose achieving political goals definition precise quoted scholars lacks important aspect terrorism international linkage terrorists inflict terror funds infrastructure facilities receive international connections somewhat similar elaborate definition given alex p schmid analysed innumerable definitions arriving following conclusion terrorism anxietyinspiring method repeated violent action employed clandestine individual groups state actors idiosyncratic criminal political reasons wherebyin contrast assassinationthe direct targets violence main targets immediate human targets violence generally chosen randomly selectively target population serve message generators threat violence based communication processes terrorists victims main targets manipulate main target turning targeting terror target demands target attention depending intimidation coercion propaganda primarily sought definition goes phenomenon terrorism remains focussed targets objectives basic nature similarly brian jenkins writes threat violence individual acts violence campaign violence designed primarily instill fear terrorism definition terrorism close concept terrorism ignores significant aspects training international support aspects highlighted definition christopher dobson martha crenshaw necessity training expressed dobson writes use explosive devices terrorists needs appropriate training need international assistance expressed definition martha crenshaw opines terrorism means accomplish certain political objectives international support group scholars define terrorism historical perspective instance michael walzer believes random terror political achievement emerged strategy revolutionary struggle world war ii likewise scholars define terrorism light violence coercion state agencieswalter laquer instance defines acts violence repression carried government people terrorism vein neil livingston says state main perpetrator

terrorism today corroborating idea scholars like jay mallin defines terrorism substitute overt warfare words diplomats fail soldiers soldiers fail terrorists opinion terrorism substitute war consequence failed diplomacy relevant state terrorism fallout military failure far reality experience inability police soldiers countering terrorism matter fact diplomats political leaders police fail soldiers curb terrorism definition terrorism general assembly report ad hoc committee international terrorism th sessiona important document history terrorism recalling resolution entitled measures prevent international terrorism endangers takes innocent human lives jeopardises fundamental freedoms study underlying causes forms terrorism acts violence lie misery frustration grievance despair cause people sacrifice human lives including attempt effect radical changes ad hoc committee established subcommittees examine definition causes prevention terrorism seven draft proposals submitted different nations subcommittee definition terrorism nonaligned group consisting algeria congo democratic yemen guinea india syria tunisia tanzania yemenyugoslavia zaire zambia submitted collective proposals france greece haiti iran nigeria venezuela separate presentations definition terrorism nonaligned group defined terrorism acts violence committed group individuals endanger human lives jeopardise fundamental freedoms effects confined state affect inalienable right selfdetermination colonial racist regimes french proposal described international terrorism heinous act barbarism committed foreign territory greece distinguished terrorism freedom fighting defined criminal acts violencewith aim pressure dispute personal satisfaction haiti included political aspirations definition iran added violence freedom movement acts international terrorism nigeria venezuela held similar views apparently house divided resolution definition terrorism adopted matter remained suspended secretary general convened international conference define terrorism differentiate freedom fighting conference successful sense members agreed identify terrorism crime accordingly future plan action proposed taking note secretary generals report conference general assembly condemned acts terrorism fighting right selfdetermination foreign racist regimes criminal resolution adopted reports sixth committeegeneral assembly th meeting dated december report overwhelmimg majority adopted resolution remarkably israel voted resolution honduras abstained years deliberations counterdeliberations finally came conclusion acts terrorism criminal question arises correct definition terrorism terrorist criminal answer questions lies selfcontradiction terrorism analysed concept definition correct link crime terrorism established identify misleading criminals political purpose converted terrorism normally aim acquire wealth concerned economy state individuals political situation politics main consideration terrorists analysed point view prevention definition serve purpose simplest way cope terrorism effective measures prevent international terrorism getting details causes political affiliation identify acts violence treat criminal sounds good viable prevention objective defining terrorism criminal immediately adopted resolution compulsory extradition treaty nations exchange criminals terrorist operating different parts world taken measure direction issue raised time extradition compulsory criminals tried according law nation belong definition unlikely prevent international terrorism definition relevance

obviously long list definitions given different scholars different points time different situationsundoubtedly definitions lead conceptualisation terrorism certain common features definitions presents terrorism totality scholar offered perspective terrorism adopted terrorists perspective evolve functional definition terrorism present study attempt basis david eastons theory eastons theory adopted merely phenomenon terrorism direct effect socioeconomic political terrorism emanates order arrive functional definition terrorism pragmatic approach problem relevant definition devoid socioeconomic political issues involved terrorism holds good academic purpose practical implications order arrive functional definition terrorism pragmatic approach problem relevant context terrorism broadly defined perspectives political perspective p group action ga international linkage il means perspective m violence v training t model definition terrorism analysed mentioned perspectives terrorism political phenomenon described p means described m achieve political goalsin subsequent phase model explains p demands coordination cooperation form cohesive political group needs ga implement plan ga turn leads il political perspective point view terrorism defined political criminal psychological phenomenon light fact terrorists believe personal gain accumulation wealth sole objective acquire political power form autonomy creation independent state means perspective terrorism defined means pursuit realisation political mission explaining means model emphasises necessity violence terrorismviolence employed terrorists specific type tactical nature violence conveying message government terrorism killing arson devoid publicity fit definition terrorism furthermore tools violence terrorists use demands professional training layman operate sophisticated weapons missiles terrorists aspect needs attention defining terrorism following paragraphs present detailed analysis perspectives definition terrorism violence intimidation effective means achieve multiple objectivesit personal benefits redress social economic grievances gain political mileage acts violence terrorism incidents violence defined terrorism political implications individual acts violence psychological nature political socioeconomic psychological aspects causal factors growth terrorism basic nature phenomenon nature purpose terrorism political political identity understood better analysing dimensions problem objective methodology organisational structure ultimate goal terrorists acquire political power social economic problems primary issues vital rise terrorism priorities believe political power comes domain social economic reforms follow sole aim capture power desperation inspires target political leaders institutions malign credibility government important political dimension terrorism organisational structure terrorist groups organised political party criminal gang initially emerge political unit aspiring political recognition fail dent active politics political means agenda shifts politics tactical violence india sikh students federation aisf punjab party hurriyat conference aphc jammu kashmir cited examples situation aisf came existence organised group sikh students punjab passage time emerged active terrorist groups punjab similar case aphc kashmir came political party contest national conference j k failed participate political process partly funded pakistan partly leaders involved aphc sure path followviolence politics negotiation bit confused pakistan like peaceful solution kashmir problem india

accept organisation playing pakistani tune internal politics country number including main leaders arrested fomenting trouble j k aphc banned organisation activities observation aisf aphc groups fail gain recognition government people adopt violent course action destabilise established government democratic society civil rights guaranteed citizens democracy terrorists indulge violence create mass unrest fearwilkinson rightly defines acts violence political terrorism subsequently definition model highlights ga essential element terrorismthe kind violence terrorists inflict impact collective manoeuvering operate network structure interdependent execute plan subversion need collaboration operations high terrorist organisations times hire services groups national boundary instance paksponsored terrorism india involves different terrorist groups operating punjab j k assam india mercenaries afghanistan sudan saudi arabia theory individualism isolation relevance terrorism bigger network mileage key terrorist operations individual acts terror political purpose terrorism manifestation crime mental sickness individuals best defined psychopaths terrorists mohamed ali agca turkey man shot pope john paul ii rome political motive investigating agency italy tried establish link turkey based terrorist group grey wolf evidence political connection judicial trial denied having connection grey wolf right wing nationalist action party nap turkey claimed representing idea terrorism sentenced death pope direct interaction conviction requested court reduce punishment death life imprisonment realised case mental sickness deliberate act terrorism political perspective terrorism remain incomplete focus international linkage interaction terrorist groups essential feature terrorism terrorist operations demand heavy expenditure weapons training facilities unlikely come sources national boundary risk exposed police intelligence agencies high operation remains confined domestic frontiers possibility caught law enforcement agencies keeps crossing border terrorist groups merely foreign source funding maintain cross border training camps sanctuaries history terrorism replete illustrations transnational terrorism red faction army raf west germany popularly known baader meinhoff jklf pose threats civilised society international linkage baader meinhof important leaders raf rendezvous jordan train palestinian militants pursuit destabilise government west germany way kashmiri militants received military financial assistance mujahideens pakistan afghanistan similarly uk based ira operation units british prime minister margaret thatcher authentic information ira receiving funds libyan mercenaries issue important factors inspired thatcher approve attack libya case multiple rdx explosions mumbai refers international contact collusion tiger memon smuggler turned terrorist established political contacts border trying convert illgotten money politicoreligious outlets son police inspector began criminal career mumbai moved dubai established links pakistani intelligence law enforcement agencies net result collaboration serial bombing mumbai incident india pursued uae government extradition treaty countries compelled tiger memon main accused shift base dubai karachi lives protection constant vigilance pakistan government maintaining tradition highjackers indian airlines ic successfully utilised political contacts afghanistan hardcore pakistani terrorists azhar masood released good offices taliban government engaged bargain india qandhar international airport afghanistan day drama

beginning december highjackers bargained india taliban government afghanistan india diplomatic relations difficult situation delhi crisis involving taliban government incidents indication political collaboration international network terrorist groups vital success terrorism contacts cooperation terrorism remain bare philosophy impact society government apolitical definition terrorism relevance global problem terrorism terrorism study conflict politics national frontiers needs defined politically second essential aspect definition terrorism analyse means end end history offers evidence terrorists invariably aim achieve certain socioeconomic political goals terror tactics means end means theory relevant politics violence individual perpetrator addresses grievances terror tactics martha crenshaw substantiates idea defining terrorism means political end furthermore type means employed defines group terrorist worth mentioning political parties resort violence times clear distinction violence political party terrorist group necessary defining terrorism students terrorism confuse differences easily explored instance violence established political party normally haphazard low intensity happens wake protest rallies demonstrations form anomie planned violence like terrorism violence political parties create mass unrest long period time create chaos confusion halt government machinery day pose threat society terrorism hand adopts wellplanned tactic indulge violence arson subversion phase violence chalked terrorists according socioeconomic political conditions target area environment unrest fear created conspiracy propaganda terrorists resort violence issues totally missing violence political parties corollary explained model important note violence precondition terrorism needs proper planning execution subversive plans largely depends training imparted terrorists training use weapons tactical application violence possible aspect significant defining terrorism terrorists trained weaponry communication systems postviolence follow actions training camps abroad important aspect terrorism era live daggers knives machine guns bazookas missiles transister bombs letter bombs cyanide rdx highly sophisticated weapons ammunition require proper training operate lack skill prove fatal self destructive descriptions apparently lead conclusion terrorism kind violence expressed spur moment organised instrument achieve political objectives identity comprising issues mentioned basis definitions given scholars world real issues involved terrorism terrorism defined act threat act tactical violence group trained individuals having international linkage achieve political objective group sponsored non state state agencies definition precisely covers aspects terrorism'

1.3 Word Cloud

```python
def plot_cloud(wordcloud):
    plt.figure(figsize=(40, 30))
    plt.imshow(wordcloud)
    plt.axis("off");
wordcloud = WordCloud(width = 1000, height = 600, random_state=1,
 background_color='white', colormap='RdGy', collocations=False).
 generate(terr_text_final)
```

```
plot_cloud(wordcloud)
#https://towardsdatascience.com/simple-wordcloud-in-python-2ae54a9f58e5
```