Information Extraction for YOU: A Persona-Based Life Story Generator Documentation

Release

FB Persona

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IEApp

1.1 driver module

```
class driver.Driver
    Bases: object
    init ( name, data )
               Main function of the Information Extraction process
        Parameters
                       • persona – persona of the user
                       • name – Facebook name of the user
                       • data – type of data to be extracted (1 for posts, 2 for liked pages, and 3 for
                         events)
```

1.2 database module

Returns

```
class database.Database
    Bases: object
    connectDB()
              Connects to the Database
        Returns cursor in the database
    getDateTime ( timestamp )
              Converts the timestamp to date and time
        Parameters timestamp – date and time the post was created
        Returns
                   date, time
    getEventsByLabel ( persona, tableName )
              Gets the events by a specific user preference
                      • persona – user preference
        Parameters
                      • tableName – table name of the user
```

Returns array of events

```
getLikesByLabel ( persona, tableName )
          Gets the liked pages by a specific user preference
    Parameters
                   • persona – user preference
                   • tableName - table name of the user
    Returns
               array of liked pages
getPostsByLabel ( persona, tableName )
          Gets the posts by a specific user preference
                   • persona – user preference
    Parameters
                   • tableName – table name of the user
    Returns
               array of posts
getProfile ( name )
          Gets the profile information of the user from the database
    Parameters name – Facebook name of the user
    Returns
               instance of a profile
```

1.3 filemanager module

```
class filemanager.FileManager
    Bases: object
    writeFile (filename)
        Writes file (only applicable if exporting the results to .txt) :param filename: desired name of the file
        Returns
```

1.4 clean module

```
class clean.Clean
   Bases: object

cleanData ( posts, profile )

   Main function for cleaning the data
   param posts list of raw posts
   param profile profile object of the user

Returns array of cleaned posts

dividePost ( post )

   Dividing the raw post to 3 main elements
   param post raw post

Returns event, shared post caption, user thought
```

```
extracts the hashtags and mentions from the post
    param p an instance of a post (with no values for hashtags and mentions)

Returns an instance of a post (with values for hashtags and mentions)

mild_clean ( query )

Function for mild cleaning

param query raw post

Returns cleaned post

thorough_clean ( post )

Function for thorough cleaning

param post raw text

Returns cleaned text
```

1.5 emojiremove module

```
class emojiremove. EmojiRemove
    Bases: object
    A class for removing not only the emoji/emoticons, but also other entities like new lines, whites-
    paces, URLs and email addresses.
    removeExtras()
              Removes the URLs and Email Addresses in the post
              param text raw text
        Returns cleaned text
    removeNewLine()
              Removes the new lines in the post
              param text raw text
        Returns cleaned text
    removeWhitespaces()
              Removes the whitespaces in the post
              param text raw text
        Returns cleaned text
    remove_emoji()
              Removes the emojis/emoticons in the post
              param text raw text
        Returns cleaned text
    remove_specialChars()
              Removes the special characters (except .!?,'" @&:/-]+) in the post
              param text raw text
        Returns cleaned text
```

1.6 entity module

```
class entity.Entity
   Bases: object

doesExists ( token )

   Determines whether a certain word or entity exists
   param token specific token

Returns True or False

isAnEntity ( token )

Determines whether the token is an entity or not
   param token specific token

Returns
```

1.7 spellcheck module

4

```
class spellcheck. SpellChecker
    Bases: object
    compareWord ( word, fil, eng )
               Compares the original text to the suggested filipino and english text
               param word original text
               param fil
                           Suggested Filipino text
               param eng Suggested English text
        Returns Filipino or English word (which one is closest)
    findMostSimilar ( word, tokens )
               Finds the most similar word from the list of suggested spelled words
               param word original text
               param tokens array of suggested spelled words from HunSpell
        Returns most similar text
    inPeople ( text, people )
               Checks if the token belongs to the mentioned people
               param text
               param people array of mentioned people
        Returns True or False
    spell ( text, post )
               Main function for spell corrector
               param text post that has already undergone cleaning process beforehand
               param post raw post
        Returns spelled post
```

```
Distinguishes whether the word is spelled correctly or not.

param token original text

Returns True or False

spell_Eng ( token )

Determines whether the spelling is in the English dictionary and gets the suggested English words

param token original text

Returns array of suggested spelled English words from HunSpell

spell_Fil ( token )

Determines whether the spelling is in the Filipino dictionary and gets the suggested Filipino words

param token original text

Returns array of suggested spelled Filipino words from HunSpell
```

1.8 alchemyapi module

```
class alchemyapi. AlchemyAPI
    Bases: object
    data = None
    getCategories ( query )
              Get the value from the categories feature of Watson API with >= 75% relevance
              according to category type
              param query category type
        Returns JSON of categories
    getCategoriesNoRelevance()
              Get the value from the categories feature of Watson API with no relevance
        Returns JSON of categories
    getCategoriesNoRelevance2()
              Get the 3rd level hierarchy from the categories feature of Watson API
        Returns array of 3rd level hierarchies
    getConcepts()
              Get the value from the concepts feature of Watson API with no relevance
        Returns JSON of concepts
    getConceptsRelevance()
              Get the value from the concepts feature of Watson API with > 85% relevance
        Returns JSON of concepts
    getEntities()
              Get the value from the entity feature of Watson API
```

```
Returns JSON of entities
getKeywords()
          Get the value from the keywords feature of Watson API with > 50% relevance
    Returns JSON of keywords
getKeywordsNoRelevance()
          Get the value from the keywords feature of Watson API with no relevance
    Returns JSON of keywords
getRelations()
          Get the value from the relations feature of Watson API
    Returns ISON of relations
getSemanticRoles()
         Get the value from the semantic role feature of Watson API
    Returns ISON of semantic roles
getSentiment()
          Get the value from the sentiment feature of Watson API
    Returns sentiment
natural_language_understanding = None
nlu (query)
          API Call to IBM Watson API to get the information about the query
          param query
    Returns True (if without error/s) or False (if with error/s)
```

1.9 asstypes module

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```
class asstypes.AssTypeInfo
Bases: object

fangirlboy ( data, assertions )

Identifying assertion type for The Fangirl/Fanboy
param assertions array of extracted information
param data array of data frames

Returns array of The Fangirl/Fanboy dataframes

foodie ( data, assertions )

Identifying assertion type for The Foodie
param assertions array of extracted information
param data array of data frames

Returns array of The Foodie dataframes
```

```
Gets the data frames with identified assertion types

param persona persona

param data array of data frames

Returns list of data frames with identified assertion types

getChecklist (persona)

Gets the list of information to be extracted for each posts

param persona persona

Returns JSON of information
```

1.10 conceptnet module

1.11 contextunderstanding module

```
class contextunderstanding.ContextUnderstanding
    Bases: object

asstypeinfo = <context.asstypes.AssTypeInfo object>

fan = <context.fanextract.FanExtractor object>

foodie = <context.foodextract.FoodieExtractor object>

game = <context.gameextract.GameExtractor object>

getContext ( persona, cleaned, profile )

Function for context understanding
    param persona specific user preference of the user
    param cleaned list of cleaned posts
    param profile profile object of the user

Returns array of data frames with assertion types

sport = <context.sportextract.SportExtractor object>
```

1.12 dbpedia module

```
class dbpedia. DBPedia
    Bases: object
    getHypernym ( query )
              Gets the hypernym of the query
              param query query
        Returns hypernym
    getType ( query )
              Gets the type of the query
              param query query
        Returns array of types
    nlp = <spacy.lang.en.English object>
    search ( query )
              Distinguishes whether the query exists on DBPedia
              param query query
        Returns True or False
    searchFoodCategory ( query )
              Gets the category of food
              param query food
        Returns array of food categories
    sparq1 = None
```

1.13 fanextract module

```
class fanextract.FanExtractor
Bases: object
Context Understanding for The Fangirl/Fanboy
createAssertionStoryPost (base_data, post, postInfo, storyInfo, assertions)
extracts information from event and shared post caption
param base_data data frame that contains the specific information that can be extracted
param post post instance
param postInfo shared post caption
param storyInfo event
param assertions list of already extracted information
Returns list of extracted information
```

```
describeSubject ( sentiment )
          Extracts data from "describing the subject" subject situation
          param sentiment user thought
    Returns describe data
extractPost ( post )
          Extracts data from the shared post caption
          param post shared post caption
    Returns post data
extractSentiment ( sentiment )
          extracts information from the user thoughts
          param sentiment user thought
    Returns activity data, describe data, subject data, sentiment data
extractStory ( story )
          Extracts data from the event
          param story event
    Returns event data
fanExtract ( post, persona, person )
          Main function for The Fangirl/Fanboy context understanding
          param post
                         specific post
          param persona persona
          param person user
    Returns array of extracted information
findSubject ( post )
          Finds the subject of the post
          param post post
    Returns post data
findTitleInQuotes ( post )
          Extracts the title of an object that are enclosed with ""
          param post post
    Returns title
find_adj ( docu )
find_verb ( docu )
getSentiment ( sentiment )
          Gets the sentiment from Watson API
          param sentiment user thought
    Returns sentiment
isArt ( title )
          Determines whether the entity is a novel, book, song, or movie
```

```
param title title of the entity
Returns True or False

narratingActivity ( sentiment )

Extracts data from narrating an activity subject situation
    param sentiment user thought
Returns activity data
```

1.14 foodextract module

```
class foodextract.FoodieExtractor
    Bases: object
    Context Understanding for The Fangirl/Fanboy
    api = <context.alchemyapi.AlchemyAPI object>
    asstypeinfo = <context.asstypes.AssTypeInfo object>
    conceptnet = <context.conceptnet.ConceptNet object>
    dbpedia = <context.dbpedia.DBPedia object>
    extractFoodPostInformation ( post )
              extracts the food (subject) from the post
              param post post
        Returns food, food organization
    extractStoryInformation(story)
              extracts information from the event
              param story event
        Returns action, organization, location, tagged_friends
    find_root ( docu )
              finds the root token of a sentence
              param docu sentence/query
        Returns root token
    foodieExtract ( post, persona, person )
              Main function for The Foodie context understanding
                             specific post
              param post
              param persona persona
              param person user
        Returns array of extracted information
    getFood ( keywords )
              determines if the keywords generated from Watson API has a food entity
              param keywords array of keywords
        Returns array of foods
```

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1.15 gameextract module

```
class gameextract. GameExtractor
    Bases: object
    Context Understanding for The Gamer
    activities ( post )
              extracts data for "narrating an activity" subject situation
              param post post
        Returns
    activitiesDone = []
    activitiesTerms = ['giveaway', 'giveaways', 'livestreaming', 'livestreams', 'livestream']
    activityExists (af, g)
              searches if activity with the same value already exists
              param af activity value
              param g game value
        Returns True or False
    addToActivities ( activity, game, action )
              add values to activities
              param activity activity
              param game game
              param action action
        Returns
    addToGames ( gamee, typee )
              add values to played games
```

```
param gamee game
          param typee type
    Returns
addToTeams ( team, games, country )
          add values to supported teams
          param team
                        team
          param games games
          param country country
    Returns
api = <context.alchemyapi.AlchemyAPI object>
asstypeinfo = <context.asstypes.AssTypeInfo object>
conceptnet = <context.conceptnet.ConceptNet object>
dbpedia = <context.dbpedia.DBPedia object>
eventTerms = ['festival', 'fest', 'concert', 'cup', 'tournament']
extractStory ( story )
          extract data from the event
          param story event
    Returns
gameExtract ( posts, persona, person )
          Main function for The Gamer context understanding
          param posts
                        array of cleaned posts
          param persona persona
          param person user
    Returns array of extracted information
game_dic = cprepros.dictionaries.game_dic.GameDictionary object>
game_team = repros.dictionaries.game_team_dic.GameTeamsDictionary object>
games = \{\}
generateAssertions()
          collect extracted information
    Returns
gsearch = <context.googlesearch.GoogleSearch object>
nlp = <spacy.lang.en.English object>
peopleEntities = ['gamer', 'streamer']
person = "
persona = "
```

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```
playOnPost ( post )
              extracts the game he plays from the shared post caption
              param post shared post caption
        Returns
    playOnSentiment ( sentiment )
              extracts the game he plays from the user thought
              param sentiment user thought
        Returns
    playOnStory ( storyDict )
              extracts the game he plays from the event
              param storyDict event data
        Returns
    subjects = \{\}
    teamOnPost ( post )
              extracts the team he supports from the shared post caption
              param post post
        Returns
    teamOnSentiment ( sentiment )
              extracts the team he supports from the user thought
              param sentiment user thought
        Returns
    teamOnStory ( storyDict )
              extracts the team he supports from the event
              param storyDict event data
        Returns
    teams = {}
    terms = ['gaming', 'game']
1.16 googlesearch module
class googlesearch.GoogleSearch
    Bases: object
    dataCleaning ( description )
              a part of the process of getting the frequent words
              param description
```

Returns

description

```
feature_extraction ( train_texts )
          a part of the process of getting the frequent words
          param train_texts train_texts
    Returns
getFood ( mentions )
          searches through Google and determines if it is a food
          param mentions mentions
    Returns
get_most_common_terms ( train_texts )
          a part of the process of getting the frequent words
          param train_texts train_texts
    Returns
isPerson ( query )
          searches through Google and determines if it is a person
          param query query
    Returns True or False
search ( query )
          searches through Google
          param query query
    Returns 30 most frequent words
stemming_tokenizer ( text )
          a part of the process of getting the frequent words
          param text text
    Returns
tf_idf ( description )
          a part of the process of getting the frequent words
          param description
             description
    Returns
```

1.17 likedpagesevents module

```
class likedpagesevents.LikedPagesEvents
    Bases: object
    extractEvents ( data, persona )
        extracts events
        param data events
        param persona persona
    Returns array of events in data frames
```

```
extractLikedPages ( data, persona )
extracts liked page
param data liked pages
param persona persona
Returns array of liked pages in data frames
```

fanCateg = ['Automotive Company', 'Biotechnology Company', 'Cargo & Freight Company', 'Community Organization', 'Community Services', 'Company', 'Health/Beauty', 'Non-Governmental Organization', 'Non-Profit Organization', 'Organization', 'Political Organization', 'Political Party', 'Retail Company', 'Telecommunication Company', 'Tobacco Company', 'Travel Company', 'App Page', 'Appliances', 'Baby Goods/Kids Goods', 'Bags/Luggage', 'Brand', 'Building Materials', 'Camera/Photo', 'Cars', 'Clothing (Brand)', 'Commercial Equipment', 'Furniture', 'Home Décor', 'Household Supplies', 'Jewelry/Watches', ' Kitchen/Cooking', 'Office Supplies', 'Patio/Garden', 'Pet Supplies', 'Pharmaceuticals', 'Phone/Tablet', 'Product/Service', 'Software', 'Tools/Equipment', 'Vitamins/Supplements', 'Website', 'Wine/Spirits', 'Actor', 'Artist', 'Author', 'Band', 'Blogger', 'Chef', 'Comedian', 'Dancer', 'Entrepreneur', 'Fashion Model', 'Fictional Character', 'Film Director', 'Fitness Model', 'Government Official', 'Journalist', 'Motivational Speaker', 'Movie Character', 'Musician', 'News Personality', 'Pet', 'Photographer', 'Political Candidate', 'Politician', 'Producer', 'Public Figure', 'Scientist', 'Teacher', 'Video Creator', 'Writer', 'Album', 'Book', 'Book Series', 'Book Store', 'Concert Tour', 'Festival', 'Fictional Character', 'Library', 'Literary Arts', 'Magazine', 'Movie', 'Movie Character', 'Movie Theater', 'Movie/Television Studio', 'Music Award', 'Music Chart', 'Music Video', 'Performance & Event Venue', 'Performance Art', 'Performing Arts', 'Podcast', 'Radio Station', 'Record Label', 'Show', 'Song', 'Theatrical Play', 'Theatrical Productions', 'TV Channel', 'TV Network', 'TV Show', 'TV/Movie Award']

foodieCateg = ['Agriculture Company', 'Company', 'Food & Beverage Company', 'Retail Company', 'Tobacco Company', 'Non-Governmental Organization', 'Non-Profit Organization', 'Organization', 'Retail Company', 'App Page', 'Brand', 'Food & Beverage Company', 'Chef']

gamerCateg = ['Community Organization', 'Community Services', 'Company', 'Computer Company', 'Internet Company', 'Non-Governmental Organization', 'Non-Profit Organization', 'Organization', 'Retail Company', 'App Page', 'Board Game', 'Brand', 'Computers (Brand)', 'Electronics', 'Games/Toys', 'Phone/Tablet', 'Product/Service', 'Software', 'Video Game', 'Amateur Sports Team', 'Sports League', 'Sports Team', 'Stadium', 'Arena & Sports Venue', 'School Sports Team', 'Athlete', 'Coach']

sportsCateg = ['Community Organization', 'Community Services', 'Company', 'Non-Governmental Organization', 'Non-Profit Organization', 'Organization', 'Retail Company', 'App Page', 'Brand', 'Amateur Sports Team', 'School Sports Team', 'Sports League', 'Sports Team', 'Stadium', 'Arena & Sports Venue', 'Athlete', 'Coach']

1.18 sportextract module

```
class sportextract.SportExtractor
    Bases: object
    Context Understanding for The Sports Fanatic
    addToFanOf (fanOf, categories )
              add values to fanOf
              param fanOf
                               fanOf
              param categories categories
        Returns
    addToTeam ( team, categories )
              add values to teams
              param team
              param categories categories
        Returns
    combinePost(p)
              combines the story, post, and sentiment
              param p post instance
        Returns
    determineSport ( post )
              distinguishes if it is a sport or not
              param post combined post
        Returns
    extractFanOf ( statement )
              extracts the athelete he supports
              param statement user thoughts
        Returns
    extractStory ( story )
              extracts data from the event
              param story event
        Returns event data
    generateAssertions()
              collect extracted information
        Returns
    getSentiment ( statement )
              gets Sentiment from Watson API
              param statement user thought
        Returns
```

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```
determines the subject

param statement user thought
Returns

searchLeague ( page )

extracts the leagues he follows

param page shared post caption
Returns

sportExtract ( posts, persona, person )

Main function for The Sports Fanatic context understanding

param posts array of cleaned posts

param persona persona

param person user

Returns array of extracted information
```

1.19 translator module

```
class translator.TGENTranslator
   Bases: object
   translateQuery ( query )
        translates Tagalog to English texts
        param query query
   Returns translated text
```

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