Email   : kemalgnay@gmail.com   **KEMAL GUNAY**   **ORCID:** 0000-0003-2665-1656
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EDUCATION

PhD Communication Science, Institute of Social Sciences, Istanbul University   **2018 — 2022**
  Thesis: "Climate Change Communication and Public Relations: Comparison of Ministries and NGOs' Public Relations Activities on Twitter" - Examined textual data with rule-based and unsupervised machine learning algorithms

Master Corporate Communications, Institute of Social Sciences, Istanbul University   **2015 — 2018**
  Thesis: "Content-based communication in social media: A research on universities"

Bachelor Public Relations and Publicity, BA, Communication Faculty, Istanbul University   **2003 — 2007**

ACADEMIC AND WORK EXPERIENCE

University of Trento, Data Scientist & Postdoc, Trento   **2023 —**
- Application: Python & R, data manipulation, data visualization, statistical tests.
- Collecting and managing large databases from major social media platforms; using quantitative analysis methods and techniques; specifically (but not exclusively) analyzing data using techniques from computational linguistics (NLP), network science (social and/or semantic), machine learning.
- CCINDLE aims to enhance trust in democracy and to re-invigorate engagement with democratic institutions and values in Europe. It does so by co-creating solutions to the crisis of democracy, by designing and implementing strategies, which counter opposition to equality and democracy and by supporting citizens and activists working in this field.

Istanbul Aydin University, New Media and Communication, Istanbul   **2023 — 2023**
- New Media Research Methods: I teach core courses in the social sciences: research methods and statistics
- Theory: Statistical thinking models, data literacy: Frequency distribution, Measures of Central Tendency, Measures of Dispersion, Introduction to Bivariate Relationships/Hypothesis-testing, Crosstabs/Contingency Table Analysis
- Application: Python basics, data manipulation, data visualization, statistical tests

Istanbul University, Communication Faculty, New Media Researcher (Scholar), Istanbul   **2019 — 2022**
- Field of Study: Digital Media, Environmental Communication, Data Science, Political Discourse
- Tools: Python, R, SPSS
- Analysis Methods: Text mining & NLP; Topic Modelling (LDA, STM), Social Network Analysis, Text Clustering
- Organizing events such as seminars, conferences, and workshops.

Data Science & ML School, Bootcamp Participant, Istanbul   **2021 — 2022**
- Hands-on-experience via projects; CRM Analytics; Recommendation Systems; Measurement, Regression, Classification and Time Series Problems; NLP, MS SQL, Big Data and Production Level Data Science.

Istanbul Gelisim University, Communication Faculty, Research Assistant, Istanbul   **2018 — 2019**
- Field of Study: Digital Media and Communication Sciences, NLP & Text Mining, Data Visualization
- Academic research through Python, RStudio, SPSS, NVivo Software
- Organizing events such as seminars, conferences, and workshops
- Corporate website management
- Performing PR activities such as news, interviews, press releases

TEACHING

New Media Research Methods, Istanbul Aydin University   **2023**
- I teach core courses in the social science: digital research methods and statistics

PySpark ML Bank Customer Churn Prediction Project, Miuul   **2021**
- A workshop where I explained Spark installation and functions. GitHub

Teacher Bachelor course "Visualization in R", Gelisim University   **2019**
- Based on material by Garrett Grolemund, Hadley Wickham: R For Data Science

SKILLS

Languages	Turkish (native), English (fluent), Spanish (A2), French (A2), German (A2)
Statistical Software	R, SPSS
Programming	Python and JavaScript (data retrieval, text analysis and NLP, building web applications)

Databases	SQL, Spark
Markup languages	LaTeX, HTML, CSS
System administration	Linux, Docker, Apache Kafka, cloud computing, virtual machines, AWS E2C, S3

DATA SCIENCE & ML PROJECTS

Geolocation Algorithm | From Text to Location   **2022**
- I was required to create an algorithm that takes as input a pdf file corresponding to a research publication and outputs a list of all geographical locations mentioned in the publication. For each geographical location, the algorithm will have to additionally identify the country that the location belongs to and return a latitude- longitude pair corresponding to the centroid of the respective country. (GitHub)

Dialogic Communication Principles – Auto Content Analysis (NOTE: The code is not publicly available yet)   **2022**
- Rule-based filters were made from the data obtained from the Twitter application and new variables were revealed. The approach put forward in the study makes it possible to conduct content analysis effectively for environments with fast data flows such as Twitter.

Environmental | Climate Change Communications Classifier   **2022**
- Clustering and labeling were performed with the LDA method. Afterwards, a new classifier model was created by testing SVM, Logistic Regression, Random Forest, and other algorithms.

Social Network Analysis - Community Detection R   **2021**
- Social network analysis (SNA) is the process of investigating social structures using networks and graph theory. It characterizes networked structures in terms of nodes (individual actors, people, or things within the network) and the ties, edges, or links (relationships or interactions) that connect them.

Comprehensive Guide to Build Recommendation Engine   **2021**
- In this notebook, It was explained three types of recommender systems: (1) Association rule learning (ARL), (2) content-based, and (3) collaborative filtering approaches. It will be explained how to build a recommender system with these three methods.

Please Visit My Website or GitHub for More Projects

                                                                                              2019
EXTERNAL ACTIVITIES & SERVICE TO PROFESSION

Other:
- Blogpost: One-Way ANOVA Test with RStudio
- Blogpost: Getting Started with Image Preprocessing in R
- Blogpost: Spotify User Profile Analysis With Spotifyr — RStudio
- Blogpost: Customer Segmentation: The Key to Finding The Right Customers
- Blogpost: Python Comprehensions For Beginners

PEER-REVIEWED PUBLICATIONS

Gunay, K., Gucdemir, Y. (2022). Topic Modeling Analysis of NGO's Twitter Postings Between 2020-2021 in Turkey Within The Context of Climate Change Communication

Mengu, S., Mengu, M., **Gunay, K.** (2021). Value-based communication during COVID-19 pandemic: a study on the twitter messages of Turkish Ministry of Health

Gucdemir, Y., Mengu, S., **Gunay, K.,** (2020). An Investigation of Candidate Leaders' Tweet Campaigns Prior to the Istanbul Metropolitan Municipal Elections Using Big Data Text Mining

UNDER REVIEW PUBLICATIONS

Gunay, K., Gucdemir, Y. (2022). Climate Change Communication and PR: How Climate Actors Use Dialogic Communication on Twitter 2020-2021, Public Relations Review (Q1 Journal)

WORK IN PROGRESS

Gunay, K., A Descriptive and Comparative Analysis of How the Climate Crisis is Framed by Mainstream Newspapers (Data scraping, descriptive and comparative statistical methods applied)

Gunay, **K.**, What Do People Understand from Animal Rights? Image Classification Using Deep Learning

Gunay, **K.**, Veganism Discourses Between 2012-2022 on Twitter with Semantic Network Analysis

Gunay, K., Political Communication on Social Media: Comprehensive Comparison of Turkish Political Leaders' Youtube Channels

Gunay, K., A Study on Politicians' Use of Grunig-Hunt's Four Public Relations Models

Gunay, K., A Comparative Study on G20 World Leaders' Use of Dialogical Communication Principles

BOOK CHAPTERS, AND PRESENTATIONS

Gunay, K., Computational Social Science: TCSS 2023 Understanding Society with Data, Koc University, 13,14 April 2023

Gucdemir, Y., **Gunay, K.,** (2021) Is The Internet Of Things Transforming A Surveillance Tool? Istanbul University Press

Mengu, S., Mengu, M., **Gunay, K.** (2021). 19th Annual International Conference on Communication and Mass Media, 10-11 May 2021, Athens, Greece

Gunay, K. Gucdemir, Y., CTC 2021 3rd Communication and Technology Congress 12-14 April 2021, Istanbul

REFERENCES

Istanbul University, Communication Faculty, Istanbul
• Prof. Yesim Gucdemir, Department of Public Relations, gucdemir@istanbul.edu.tr

Istanbul University, Communication Faculty, Istanbul
• Prof. Ayla Okay, Department of Public Relations, aylaokay@istanbul.edu.tr

Istanbul University, Communication Faculty, Istanbul
• Prof. Emine Yavasgel, Department Public Relations, yavas@istanbul.edu.tr

DATA SCIENCE PROJECTS LINKS (GITHUB & KAGGLE)

Natural Language Processing - NLP
1. **Geolocation Algorithm | From Text to Location**
2. **Comprehensive Guide to Build Recommendation Engine**
3. **Quora-TopicModeling-scikit-learn-LDA**
4. **Non-negative Matrix Factorization (NMF)**
5. **NLP-Amazon-Reviews Sentiment Analysis**
6. **Fake News Classifier LSTM**
7. **Multi Class Text Classification with LSTM**
8. **NLP – Text Mining Codes**
9. **Content-Based Filtering | Recommender System**
10. **LDA Topic Modeling - Bill Gates Tweets**
11. **CLTV - Customer Lifetime Value Method**
12. **Whatsapp Conversation Analysis with R**
13. **Mustafa Kemal Ataturk: Nutuk | Book Analysis** – R

BUSINESS INTELLIGENCE
14. **RFM Analysis | Recency, Frequency, Monetary**
15. **Customer Relationship Management | CRM Analytics**
16. **PySpark ML Churn Analysis**
17. **A / B Test User Experience Research**
18. **Demand Forecasting - 3 Months Sales Prediction**
19. **Salary Prediction ML Pipeline Main Function**
20. **Association Rule Learning ARL - Apriori Shopping**
21. **Rule Based Classification**
22. **Titanic EDA - Exploratory Data Analysis**