

## Erdem Balikci

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GitHub: <https://github.com/mrbalikci> | Portfolio: <https://mrbalikci.github.io/>

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### CAREER SUMMARY

*Strategic, multidisciplinary Data Analyst with an eye for innovation and analytical perfection. Combining my expertise and applied mathematics background in such areas to deliver the best creative data visualizations with perfect approximation algorithms. Adept experience collecting, cleaning, analyzing, and making meaningful stories out of the data with the best tools available.*

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### EDUCATION

The University of Texas at Austin | Data Analytics and Visualization

The University of Texas at San Antonio | MS in Applied Industrial Mathematics

The University of Dokuz Eylul Izmir Turkey | BS in Mathematics

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### AREAS OF EXPERTISE

- Data and Quantitative Analysis
- Decision Analytics
- Predictive Modeling
- Data-Driven Personalization
- KPI Dashboards and BPI Plans
- Big Data Queries and Interpretation
- Data Mining and Visualization Tools
- Machine Learning Algorithms
- Business Intelligence (BI)
- Research, Reports, and Forecasts
- Statistical Analysis: R
- Business Intelligence Software: Tableau
- Databases: MySQL, MongoDB
- Advanced Excel Functions: Pivot Tables, VBA Scripting
- Fundamental Statistics: Modeling, Forecasting
- Python Programming: Python, Numpy, Pandas, Matplotlib, API Interactions, Social Media Mining
- Web Visualization: HTML, CSS, Bootstrap, Dashboarding, JavaScript, D3.js, Leaflet.js
- Big Data: Hadoop, MapReduce, MRjob, Spark
- Natural Language Processing, N-Grams, Naïve Bayes
- Machine Learning: Neural Network, Convolutional Neural Network, Recurrent Neural Network, Decision Trees, K-Nearest Neighbors, Support Vector Machine, Grid Search, Keras, K-Means

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### MOST RECENT PROJECTS

#### **Name: Mortgage Loan App, Machine Learning**

**Tools Used:** Neural Network, Tensor Flow, Random Forest, K-Nearest Neighbor Classifier, Support Vector Machine, Keras, Python, JavaScript, CSS, HTML, D3, Flask, Pandas, Numpy, Matplotlib

**Description:** [Back End] Messy data was cleaned and converted into numerical values for machine learning pipelines. Created Normal Neural Network, Random Forest, Keras models to make a prediction of loan approval or disapproval for a mortgage application. [Front End] Used HTML, CSS, Bootstrap, and JavaScript to create a web application to take information form from the user to run loan approval and disapproval results. The model success is above 90%.

**Link:** <https://github.com/mrbalikci/mortgage-app>

#### **Name: World Refugee Crisis**

**Tools Used:** JavaScript, Python, CSS/HTML, D3, Leaflet, Flask, Pandas, Numpy, SQLite, Ssqlalchemy, Plotly

**Description:** [Back End] Explored, analyzed messy data sets from World Bank for asylum, refugee, battle related deaths for all countries since 1990. Accomplished an animated world map that shows the refugees, asylum, battle data with corresponding values, different layers by converting the data into SQLite database and reading with python by sqlalchemy queries for Flask API routes. Measured, calculated the plots, charts by using JavaScript. [Front End] Visualized all the calculations by using HTML/CSS and deployed with Heroku App.

**Links:** 1. <https://world-refugee-crisis.herokuapp.com> 2. <https://github.com/mrbalikci/project-2>

**Name: Star Trek Cast Reunion**

**Tools Used:** Python, Matplotlib, API Interactions, Statistical Modeling

**Description:** Launched API Movie Data Base for guest stars of Star Trek Original. Other movies analyzed based on their appearances. Top 10 movies were detected. Most guest star actors who were still active discovered. Formulated most popular production companies among the guest stars. Architected mosaics based on the collected pictures from the API.

**Link:** [https://github.com/mrbalikci/star\\_trek](https://github.com/mrbalikci/star_trek)

**Name: The World Cities Weather vs Latitude**

**Tools Used:** Python, API Interactions, Numpy, Matplotlib

**Description:** Coded a weather API python general script for over randomly selected 500 cities across the world of varying distance from the equator to detect their temperature, humidity, cloudiness, and wind speed based on their latitude.

**Link:** <https://github.com/mrbalikci/api-challenge>

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**MOST RECENT ACCOMPLISHMENTS**

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- **Voice Recognition: Neural Network – Machine Learning**
  - **Tools Used:** Python, Pandas, Jupyter Notebook, Matplotlib, Sklearn, Keras, Machine and Neural Network Tools
  - Applied Neural Network Machine Learning to predict the gender of a voice using acoustic properties of the voice and speech. **Link:** [https://github.com/mrbalikci/neural\\_network\\_voice\\_recognition](https://github.com/mrbalikci/neural_network_voice_recognition)
1. **Belly-Button Diversity: Bacteria Dashboard**
    - **Tools Used:** JavaScript, Python, HTML, CSS, Bootstrap, Flask API, SQLite, Sqlalchemy
    - Used Flask to design an API for the dataset and to serve the HTML and JavaScript required for the dashboard page. SQLite database file and Sqlalchemy inside of the Flask application code was used for the database as JSON file format. **Link:** <https://github.com/mrbalikci/bacteria-diversity>
  2. **UFO Sightings: Automatic Table and Data Search**
    - **Tools Used:** JavaScript, HTML, CSS
    - Wrote a code that creates a table dynamically based upon the dataset collected. Users to search through the table for specific pieces of information. **Link:** <https://github.com/mrbalikci/UFO-sightings>
  3. **School Analysis: Charter Schools Vs District Schools**
    - **Tools Used:** Python, Numpy, Pandas, Jupyter Notebook
    - Over 35k students' performances were analyzed from 15 different schools. Top, bottom performing schools diagnosed with the reasoning by charts, tables. **Link:** <https://github.com/mrbalikci/schools-analysis-pandas>
  4. **Rental Movie Database**
    - **Tools Used:** MySQL
    - Formulated a query to program total sales by each store and staff by type of the movies. Most frequently rented movies, top genres of movies that were detected. **Link:** <https://github.com/mrbalikci/mysql-challenge>

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**RELEVANT EXPERIENCE**

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The University of Texas at Austin – Data Analytics Teacher Assistant, Austin TX, 2018 – Present

Harmony Public Schools – AP Calculus Teacher, Austin TX, 2017 – Present

Northwest Catering – Operations Manager, Austin TX, 2015 – 2017

Cibolo-Schertz-Universal City ISD – AP Calculus Teacher, Schertz TX, 2014 – 2015

The University of Texas at San Antonio – Math Instructor – San Antonio TX, 2013 – 2014