EUNJEONG JOSHEPHINE LEE

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SUMMARY

Meticulous, persistent data analyst with passion for exploring the hidden skeleton of data and uncovering various ways to find simple and clear solutions. Earned a certificate in data analytics and visualization from BootCamp by UNC Chapel Hill. 10+ years of research experience in number theory and cryptography with Ph.D degree in mathematics. Strengths including problem solving abilities combined with collaborating across diverse groups and enthusiasm for learning novel areas.

TECHNICAL SKILLS

Languages: Python, VBA, JavaScript, Html, C, and R
Tools: Flask API, Spark, Sklearn
Databases: PostgreSQL, MongoDB,
Visualization: Tableau, D3, Plotly, ChartJS
Mathematics: Magma, Maple, Sage, Latex

PROJECTS

Urban Sound Classification using Machine Learning:
Github link: https://github.com/ejlee127/UrbanSoundClassificationUsingML
Deployed page: https://ejlee127.github.io/UrbanSoundML

- This project finds a model to classify the 10 types of sounds using the UrbanSound8K dataset and machine learning algorithms. By researching the best way of extracting sound features and avoiding overfitting in the training process, we carry out the experiments with various machine learning algorithms and then analyze their classification accuracies.
- My role was creating the codes for data processing, which extracts the features from audio files to construct samples for machine learning algorithms. In addition, storing the samples in PostgresSQL, creating codes for machine learning process and analyzing the experiment results and making the project page to provide a detailed explanation of what we've done.
- Tools: Python (Colab notebook, jupyter notebook), Matplotlib. PostgresSQL, Spark, Sklearn

NC-County Statistics:
Github link: https://github.com/georgealym/project-one
Deployed page: https://quiet-peak-17157.herokuapp.com/

- This project develops a consolidated dashboard of NC county employment statistics for multiple years for each county.
- My role was collecting data from census.gov using API calls, cleaning the data, and developing Flask APIs to retrieve the data. Also, using ChartJS library, I created javascript codes to represent the bar and line charts.
- Tools: Python (jupyter notebook), D3, Leaflet, Flask API, MongoDB, JavaScript, Bootstrap

Soccer Home Advantage Analysis | Github link: https://github.com/georgealym/project-one

- This project reviews the international soccer data in the European league to check the common assumption-home team has advantage is real.
- My role was collecting attendance data (csv, api), creating python codes for data cleaning and analyzing the relation between the attendance and the scores.
- Tools: Python (jupyter notebook), Matplotlib. API

EXPERIENCE

Visiting Scholar 2014 – 2015
Dept. of Mathematics, NCSU **Raleigh, NC**

- Performed joint research on number theory problems with Professor Hoon Hong.
- Served as an external member on a doctoral dissertation committee for two doctoral candidates
- Tools : Maple (algebraic mathematical package), Latex.

Key Accomplishments:

- 2 technical reports and one article, submitted to Journal of Number Theory

Research Professor 2010 – 2014
Ewha Institute of Mathematical Sciences **Seoul, South Korea**

- Led the research projects about Algorithms in Cryptography.
- Taught the classes on cryptography for undergraduate and graduate students.
- Served as a referee for the publications of research articles submitted to AsiaCrypt, ICISC, SCN, Systems & Software, and Human Tech Thesis Prize, etc.

Key Accomplishments:

- 7+ peer reviewed paper publications in number theory and cryptography journals such as Finite Fields and Their Applications, Journal of Number Theory and Design, Codes and Cryptography
- PI of the grant - Basic Science Research Program (2011-2014)

EDUCATION

Data Analytics and Visualization Certificate: University of North Carolina, ChapelHill, NC
A 24-week intensive program focused on gaining technical programming skills in Excel, VBA, Python, R, JavaScript, SQL Databases, Tableau, Big Data, and Machine Learning.

Ph.D in Mathematics: POSTECH, South Korea majored in Cryptography