

EUNJEONG LEE

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SUMMARY

Creative, rigorous and systematic data analyst with skills in Python, SQL, JavaScript, Flask API and Machine Learning. Earned a certificate in Data Analytics and Visualization from BootCamp of UNC at Chapel Hill, NC. 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. Enthusiastic for learning novel areas, searching for the hidden skeleton of data and exploring the various ways to find simple and clear solutions.

TECHNICAL SKILLS

Languages: Python, C, JavaScript, Html, CSS, VBA

Tools: Flask API, Spark, TensorFlow, Sklearn

Databases: SQL, MongoDB

Visualization: Tableau, D3, Plotly, ChartJS

Mathematics: Magma, Maple, Sage, Latex

Cryptography: PKI, Elliptic Curve Cryptosystem, Pairing-based Cryptosystem, SHA, MD5

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 sounds using 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 Sequential Model and SVM.
- 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 AWS-RDS(PostgreSQL), 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, Matplotlib, Spark, Sklearn, Tensorflow, SQL, AWS S3 and RDS

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, Flask API, MongoDB, JavaScript, Bootstrap, D3, Leaflet, CSS, ChartJS

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, Matplotlib, JSON

EXPERIENCE

Visiting Scholar

04/2014 – 03/2015

Dept. of Mathematics, North Carolina State University

Raleigh, NC

- Performed joint research on number theory problems by implementing algorithms, organizing group seminars and writing papers
- 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

03/2010 – 08/2014

Ewha Institute of Mathematical Sciences

Seoul, South Korea

- Led the research projects about Algorithms in Cryptography.
- Taught 7 classes on cryptography for undergraduate and graduate students.
- Served as a referee for the 5 publications of cryptographic journals / an organizing committee for 2+ conferences

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: BootCamp of University of North Carolina at Chapel Hill
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: Pohang University , South Korea

Field of Study: Mathematics (Cryptography)

Dissertation: Computation of Tate pairing on hyperelliptic curves and its applications - developing algorithms for the efficient Tate pairing-based cryptosystem, proposing a key agreement protocol as an application, and analyzing the efficiency by implementing the algorithms in C

VOLUNTEER / INTEREST

CLI Prison Alliance: office volunteer or bible minister since 2017

Ladies Book Study: meeting on a weekly-basis since 2018 with enthusiastic ladies in learning God's words

Music arrangement: arranging music scores to help teen's ensemble who performs in senior's assistant living