

# ZAKARI MUMUNI

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HONOLULU, HI

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<https://zakarids.github.io/>

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## Profile

Highly experienced Data Scientist adept at collecting, analyzing, and interpreting large datasets, developing new forecasting models, and performing data management tasks. Possessing an extensive analytical skills, strong attention to detail, and a significant ability to work in team environments.

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## Skills

- **Programming:** Python, R, Spark
- **Cloud:** IBM Cloud/MS Azure
- **Machine Learning:** Pycaret, MLflow, and Pytorch
- **Database:** SQL Server/mysql
- **Visualization:** Leaflet, Tableau, and Power BI
- **GIS:** ArcGIS Desktop/QGIS

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## Work History

### OahuMPO, HI (Senior Data Analyst/Planner)

2/2020- to date

- Coordinated with the stakeholders and subject matter experts about data and outcomes.
- Provided relational database expertise to execute SQL queries from disparate geospatial data.
- Created, compiled, and analyzed GIS data using ArcGIS, R-leaflet, Python-geopandas and folium.
- Translated business needs to design dashboards for insights and data visualization.  
<https://histegeis.maps.arcgis.com/apps/Cascade/index.html?appid=9fcdf282558e47c7bd2d7becb23847a2>  
[https://public.tableau.com/views/2018CMPSysstem-4219/f-dir1?:language=en-US&:display\\_count=n&:origin=viz\\_share\\_link](https://public.tableau.com/views/2018CMPSysstem-4219/f-dir1?:language=en-US&:display_count=n&:origin=viz_share_link)
- Provided technical assistance and building understanding among partners about data.
- Presented relevant data-related reports to leadership and stakeholders for decision-making.
- Used classification and PCA algorithms to solve business problems with Python (<https://zakarids.github.io/>)
- Worked with AWS Sagemaker, Databricks, Azure ML Studio for data science workflows.

### East-West Gateway CoG, St. Louis, MO (Data Analyst)

03/2017 - 02/2020

- Forecasted freeway traffic congestion using MLP, LSTM, SARIMA, and Markov models.
- Identified congestion CLUSTER using Buffer Time, Planning Time, Speed, and Time.
- Predicted impact of land use on traffic congestion using LOGISTIC regression.
- Predicted freeway congestion using Speed, Travel Time, and with DECISION TREES.
- Reduced highly correlated variables to less correlated ones using PCA.
- Assessed the impact of work zones on congestion using BSTS Time Series model.

### Social & Eng. Dev. Assoc., Ghana (Senior Data Analyst)

06/2011 – 08/2013

- Leveraged SQL to select appropriate tables for the following ML tasks:
- Cleaned and transformed data to remove incompleteness, noise and inconsistencies.
- Queries of disparate sources to create datasets for advanced statistical analysis.
- Performed data analysis in support of ad-hoc and scheduled requests for actionable insights.

I collected and Analyzed multiple ML models in Banking and Telecom industries:

- Classified bank customers with K-means CLUSTER analysis based on demographics and transactions data.
- Built predictive models using binary LOGISTIC regression for scoring credit applications, and removed redundant variables from datasets using PCA.
- Predicted real-time bank card fraud detection using MLP and RBF.
- Used K-means CLUSTER analysis to segment telecom customers based on user call characteristics.
- Forecasted short-term customer subscribership, churn, device sales, and dropped-call rates using MultiLayer Perceptron, Deep Learning, Seasonal AutoRegressive Integrated Moving Average (SARIMA) models.
- Modeled “time to churn” using COX regression based on years with employer, years at current address, household size, age, marital status, retiree, education, gender, and customer category.

## **Data Science Training**

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- IBM Data Science Certificate
- Microsoft Azure Certified Data Science Associate
- AWS Certified Machine Learning Specialty (On-going)
- Deep Neural Networks with Pytorch (Coursera)
- Sequences, Time Series and Prediction (Coursera)

## **Education**

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- MA Urban Studies. Portland State University, Portland (2016).
- MA Urban Planning. Minnesota State University, Mankato (2011).
- MA Development Evaluation and Management, University of Antwerp, Belgium (2008).
- BSc. Planning. Kwame Nkrumah Univ. of Science and Tech., Kumasi, Ghana (1999).

## **References**

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**References are available on request.**