# ESSEH ALAGAH K

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https://github.com/Eliab11/Data-Science
https://bit.ly/3ZyCjEe

>> DATA SCIENCE | ANALYTICS

## MOTIVATION

I am passionate about solving business problems using Data Science & Machine Learning. I systematically & creatively use my skillset to add tangible value to the team, the business, and the end-user. I am constantly learning, and always looking to improve.

## SKILLS & TOOLS

Programming: Python (Pandas, Numpy, matplotlib, Scikit-Learn, Keras), SQL,

Machine Learning: Linear Regression, Logistic Regression, Decision Trees, Random Forest, KNN, k-means, PCA, Association Rule Learning, Causal Impact Analysis

Other: Statistics, Github, Tableau, Jupyter Notebook, Terraform, Ansible, Docker, kubernetes, AWS, Google Cloud Platform

## PROJECTS & EXPERIENCE

- Employed Association Rule Learning to investigate the transactional relationships and dependencies among products in the grocery store's alcohol section.
- Conducted the Chi-Square Test for Independence, a hypothesis test, to evaluate the effectiveness of two types of mailers in promoting a new service.
- Implemented Principal Component Analysis (PCA) to reduce 100 unlabelled, sparse features into a more manageable set for classifying purchasers of Ed Sheeran's latest album.
- Designed and optimized a Convolutional Neural Network to classify images of fruits, aimed at helping a grocery retailer enhance and scale their sorting and delivery processes.
- Used k-means clustering to segment the customer base, with the intention of gaining deeper business insights and improving the relevance of targeted messaging and customer communications.
- Noticed that customers often choose higher-priced items, only to later find more affordable options under the same brand. Developed a deep learning-based image search engine to assist customers in locating similar alternatives to their desired product

"You Are What You Eat" Customer Segmentation

- Used k-means clustering on grocery transaction data to split out customers into distinct "shopper types" that could be used to better understand customers over time, and to more accurately target customers with relevant content & promotions

## EDUCATION

Bachelor of Arts: Mathematics Minor in Computer Science
Lehman College of The City University of New York - New York, NY 2019-2021

Associate of Applied Science: Mathematics
Bronx Community College of The City University of New York - New York, NY 2017-2019

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## COURSES & CERTS

**DSI Data Science Professional Certification**

**Actionable Learnings:** Extracting & manipulating data using SQL. Application of statistical concepts such as hypothesis tests for measuring the effect of AB Tests. Utilising Github for version control, and collaboration. Using Python for data analysis, manipulation & visualisation. Applying data preparation steps for ML including missing values, categorical variable encoding, outliers, feature scaling, feature selection & model validation. Applying Machine Learning algorithms for regression, classification, clustering, association rule learning, and causal impact analysis for measuring the impact of an event over time. Machine Learning pipelines to streamline the ML pre-processing & modelling phase. Deployment of a ML pipeline onto a live website using Streamlit. Using Tableau to create powerful Data Visualizations. Turning business problems into Data Science solutions.

**AWS Certified Cloud Practitioner**
*Amazon Web Services Training and Certification*
Credential ID 9b03b459

**Actionable Learnings:** As part of this program, I had the opportunity to acquire knowledge of the fundamentals of Amazon Web Services (AWS) and Cloud Computing.

**Institution: The Cloud Bootcamp**
Training: DevOps Cloud Bootcamp
Total duration: 60h

**Actionable Learnings:** As part of this program, I had the opportunity to acquire knowledge not only about the culture but also about the tools of the DevOps and Cloud Computing ecosystem. Additionally, I implemented projects based on real-world scenarios, such as:

- Implementation of Git repositories for Application and Infrastructure codes using AWS CodeCommit + Proof of Concept (PoC) process of 'commit', 'push' and 'revert' code changes.
- Deployment of a reusable SaaS Multi-tenant AWS infrastructure using Terraform modules securely storing terraform configuration files on AWS CodeCommit.
- Configuration and Deployment of the 'humangov' SaaS application on AWS EC2 inventory across US states using Ansible securely storing configuration files on AWS CodeCommit.
- Proof of Concept (PoC) on AWS Elastic Container Service (ECS) fronted by Application Load Balancer (ALB) and storing Docker Images on Elastic Container Registry (ECR).
- Deployment of the 'humangov' SaaS application on AWS Elastic Kubernetes Service (EKS) using a Route 53 domain, ALB ingress, and SSL Endpoint powered by AWS Certificate Manager.
- Automating the 'humangov' SaaS application build and deployment process on Kubernetes with CI/CD Pipelines using the AWS CodeCommit, AWS CodePipeline, and AWS CodeBuild.
- Implementing AWS CloudWatch Synthetics for real-time application URL monitoring integrated with CloudWatch alarms, SNS, and AWS Chatbot to send real-time alerts on Slack.
- Developing an 'event-driven' and 'serverless' Python microservice triggered by DynamoDB streams using AWS Lambda Function and AWS SDK Python Boto3.