

Jedidia Nkunzumwami– ALX Data Science Portfolio

About Me

I am a Data Science student at ALX, passionate about leveraging technology for agricultural advancements. I focus on implementing smart solutions like aeroponics and greenhouse management software to optimize farming. My expertise spans data analysis, machine learning, and software development.

Projects

1. Smart Weather Dashboard (Capstone Project)

Description: A real-time dashboard for monitoring and predicting weather conditions, specifically tailored for greenhouse farming.

Technologies: Python, Flask, Pandas, ofOpenWeather API, Power BI

Skills Applied: Data Visualization, API Integration, Time-Series Forecasting

2. Exploratory Data Analysis (EDA) on Agricultural Yield

Description: Analyzed crop yield data to identify factors affecting production and proposed data-driven solutions.

Technologies: Python (Pandas, Matplotlib, Seaborn), Jupyter Notebook

Skills Applied: Data Cleaning, Visualization, Hypothesis Testing

3. Machine Learning Model for Crop Disease Detection

Description: Built a classification model using image processing techniques to detect plant diseases.

Technologies: TensorFlow, OpenCV, CNNs

Skills Applied: Deep Learning, Image Processing, Model Evaluation

4. Predictive Analytics for Market Price Fluctuations

Description: Developed a predictive model to forecast agricultural commodity prices based on historical trends.

Technologies: Python (Scikit-Learn), Time-Series Forecasting, Power BI

Skills Applied: Regression Analysis, Feature Engineering, Data Interpretation

Technical Skills

- ✓ Data Analysis (Python, SQL, Excel, Pandas)
- ✓ Machine Learning (Scikit-Learn, TensorFlow, Keras)
- ✓ Data Visualization (Matplotlib, Seaborn, Power BI)
- ✓ Web Development (Flask, Django)
- ✓ Cloud Computing (AWS, GCP, Azure)

Certifications & Achievements

ALX Data Science Certification (In Progress)

Implemented Aeroponic Technology in Greenhouses

Built a Greenhouse Management Software

Next Steps

I am looking forward to expanding my expertise in AI-driven agricultural solutions, data-driven decision-making, and automation in farming.