Renata Putri Henessa

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SUMMARY

Data Scientist with robust analytical and statistical skills, proficient in utilizing programming languages and data science tools including Python, R, SQL, and Tableau. Experienced in leveraging Big Data, Machine Learning, Artificial Intelligence, and Cloud Technologies to enhance decision-making and operational efficiency in dynamic environments. Additionally skilled in web development, proficient in HTML, CSS, JavaScript, PHP, and Laravel for building full-scale web applications, including both user-facing interfaces and backend functionalities.

PROFESSIONAL EXPERIENCE

Central Bureau of Statistics   **2022 – Present**
Data Scientist
- Directed the Spatial Mapping and Urban Analysis of Batam, utilizing big data integration with Google Maps and satellite imagery. This modern approach reduced typical project timelines from one year to real-time, eliminated paper use and manual data entry, cutting operational costs by nearly 100%. The project significantly enhanced urban planning accuracy, facilitating instant strategic decisions and sustainable urban development.
- Led data acquisition and analysis for the construction general sub-directorate by deploying web scraping techniques to source data from over 1,000 property listings on rumah123.com. Enhanced data collection and reporting accuracy by analyzing and visualizing results in Tableau, streamlining statistical processes.
- Developed and launched the Batam Construction and Contractor Directory, a pivotal resource aggregating industry data from multiple sources through advanced web scraping techniques. This directory streamlined access to over 935 contractor profiles, enhancing decision-making and operational efficiency for urban development stakeholders.

Project Manager
- Managed the design and implementation of the Monitoring and Analysis System as both Project Manager and Lead Developer, utilizing full-stack technologies including Laravel 10 and Bootstrap. Enhanced system functionality leading to a 60% increase in efficiency ratings, significantly accelerating decision-making and aligning with smart governance standards. This role effectively bridged system specifications with business objectives.
- Engineered and led the development of the System for Bureaucratic Reform, utilizing full-stack technologies including Laravel 10 and Bootstrap. As Project Manager and Lead Developer, achieved an 88% reduction in process time, dramatically enhancing operational efficiency and responsiveness across the organization.

PROJECT EXPERIENCE

Optimum Location of Solar Energy Plants Project in United Nation Big Data Hackathon   *Data Scientist*
- Conducted comprehensive GIS-MCDA analysis to identify optimal locations for solar energy plants in Penajam Paser Utara and Kutai Kartanegara, Indonesia, analyzing electricity demand and global horizontal irradiation data to project potential generation capacities ranging from 8.072,944 to 16.327,275 megawatt-hours per year.
- Assessed electric power generation potentials using VIKOR-MCDA, significantly contributing to regional green energy initiatives and supporting Sustainable Development Goals (SDGs) 7 (Clean Energy), 14 (Life Below Water), and 15 (Life on Land).

ACLED (The Armed Conflict Location & Event Data Project) Data Study in Indonesia   *Data Scientist*
- Provided an in-depth study on conflict in Indonesia, analyzing over 10,000 data points from the Armed Conflict Location & Event Data Project (ACLED) to assess conflict trends from April 2019 to April 2022.
- Developed a comprehensive Tableau visualization, "Conflict in Indonesia: A Visualization of ACLED Data," which offered critical insights into the distribution and frequency of conflicts, enhancing understanding and decision-making regarding national security issues.

Analysis of Potential Urban Agricultural Commodities   *Data Scientist and Big Data Specialist*
- Leveraged multinomial naive bayes and random forest models in Python to analyze potential urban agricultural commodities in Jakarta, achieving an impressive accuracy of 90.1%. Sourced data from diverse platforms like websites, social media, Agromaret, and Google Maps, compiling a dataset of over 100,000 samples.
- Employed cosine similarity to ensure data integrity by eliminating duplicates and created a detailed Tableau dashboard to visually present analysis results, effectively identifying optimal locations and commodities for urban farming initiatives in Jakarta.

EDUCATION

Bachelor of Science in Data Science
STIS Statistical Polytechnic University   *CGPA: 3.65/4.00*
- Completed rigorous coursework that covered Artificial Intelligence, AI Development Methodology, Data Science, Data Preparation, Model Development, Evaluation, and Deployment, equipping with comprehensive analytical and technical skills.
- Achieved an exceptional 89.89/100 in the Associate Data Scientist Microcredential final project. Demonstrated expertise in sentiment analysis of cryptocurrencies using TextBlob Python, forecasting with the ARCH GARCH model, and conducting time series analysis using advanced neural networks (FNN, TLNN, SANN, and LSTM).
- Presented a paper on sentiment analysis at the International Conference on Data Science and Official Statistics (ICDSOS).