Personal Portfolio

Putri Maysa Adira

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About me

Welcome to my portfolio!

My name is Putri Maysa Adira, a Data Science undergraduate student at **BINUS** University, Faculty of Computer Science. I have a strong interest in data analysis and machine learning, especially in transforming data into meaningful insights to support business decision-making.

During my studies, I have worked on various data projects, including risk prediction, churn analysis, sentiment classification, and data visualization. Through these projects, I am familiar with the end-to-end data science workflow, starting from data cleaning and exploratory data analysis to modeling and communicating insights.

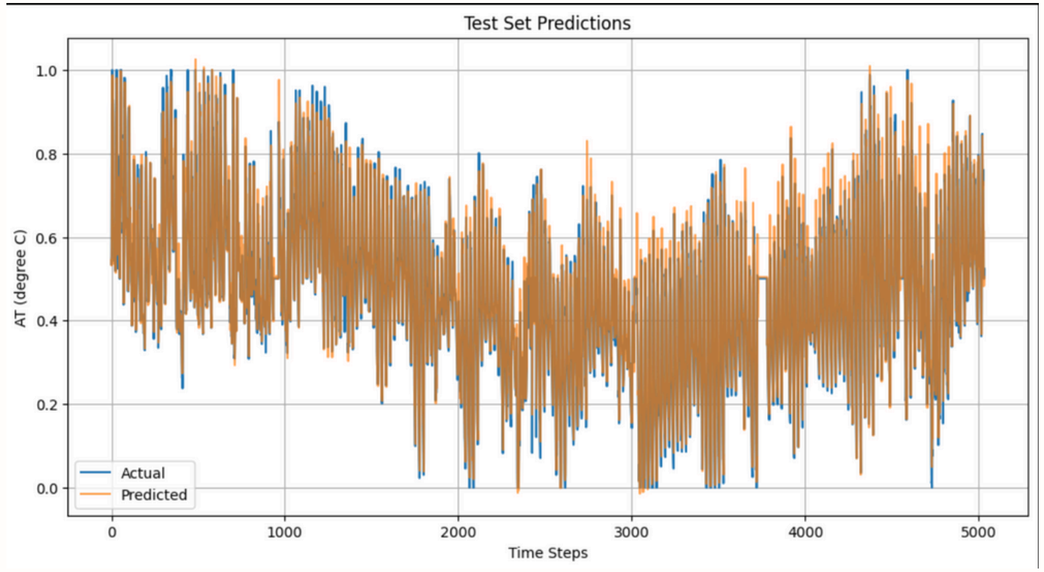
I am eager to learn, adaptable to new challenges, and motivated to grow as a Data Scientist, particularly in applying data-driven approaches to real-world business problems

Project

Putri Maysa Adira

Multivariate Time-Series-Forecasting-for-Air-Temperature-Prediction

Multivariate Time Series Forecasting for Air Temperature Prediction is a project that focuses on predicting future air temperature by leveraging multiple time-dependent variables to capture complex temporal patterns. Using a multivariate forecasting approach, the model learns relationships across different features to improve prediction accuracy. The results show that the model is able to follow the overall temperature trend closely, with predictions aligning well with actual values across most time steps. Some discrepancies appear during rapid temperature changes, indicating opportunities for further model tuning, but overall the project demonstrates a solid understanding of multivariate time series forecasting and temporal data modeling.



Project

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SmartBooking : Predicting Hotel Cancellation Risk

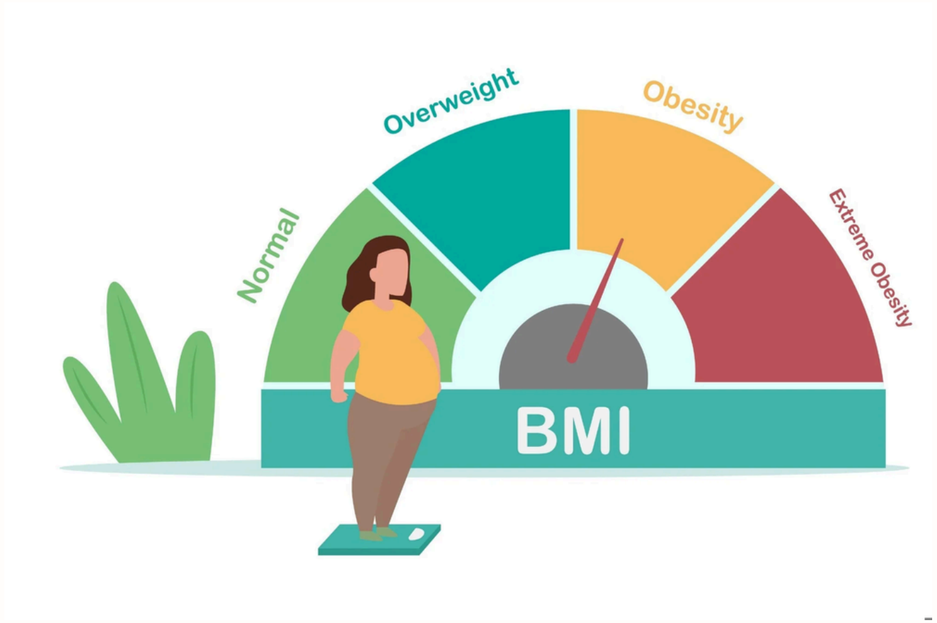
SmartBooking – Predicting Hotel Cancellation Risks is a data science project aimed at predicting the likelihood of hotel booking cancellations using historical booking data. An end-to-end workflow was applied, including data cleaning, exploratory data analysis, feature encoding, and model development using a Random Forest classifier. The model achieved strong predictive performance, with an accuracy of around 86% and a ROC-AUC score of approximately 0.94, indicating a high ability to distinguish between high-risk and low-risk bookings. Feature importance analysis shows that deposit type, lead time, and customer behavior are key factors influencing cancellation risk. This project highlights how data-driven models and insights can be leveraged to support risk-based decision making in business contexts, particularly those related to finance and customer behavior analysis.

Project

Putri Maysa Adira

Obesity Risk Detection using FastAPI

Obesity Risk Detection API Based on FastAPI is a data science project that focuses on building a machine learning–based obesity risk prediction system deployed as a REST API using FastAPI. The project aims to bridge predictive modeling with backend application development, enabling real-time risk assessment through user-provided inputs. The model is trained on health and lifestyle-related features to classify obesity risk levels. The results demonstrate that the API can efficiently handle requests and deliver consistent predictions in real time. This project highlights not only model development, but also practical deployment, system integration, and the application of machine learning in real-world scenarios.



Project

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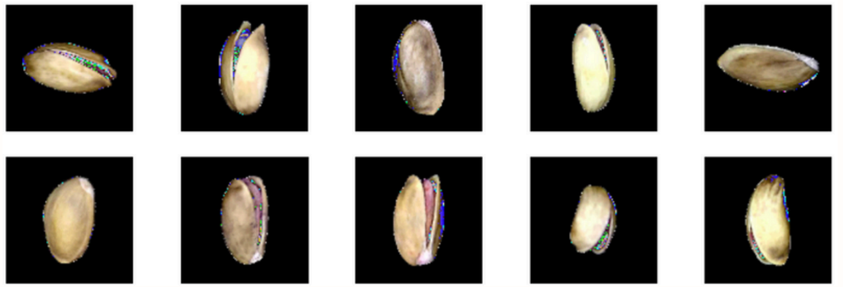
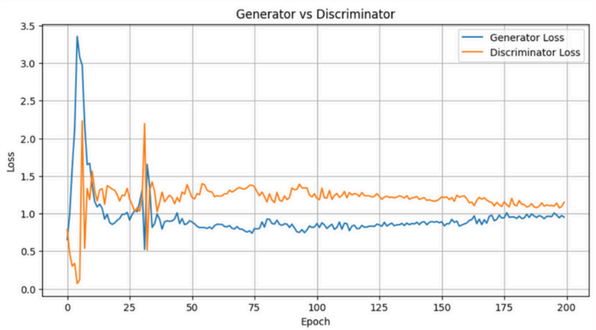
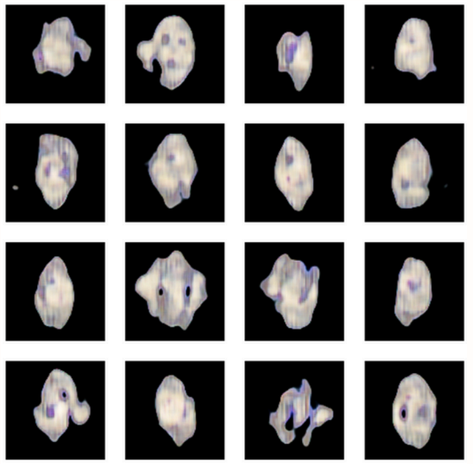
Pistachio Image Generation Using Custom GAN Architecture



Pistachio Image Generation Using Custom GAN Architecture is a deep learning project that focuses on generating synthetic pistachio images using a custom-designed Generative Adversarial Network (GAN). The project aims to explore generative modeling by learning the visual distribution of pistachio images through the adversarial interaction between the generator and discriminator. The training results indicate a gradual improvement in image quality, where clearer visual structures emerge as the number of epochs increases. Training stability is reflected in the convergence pattern of generator and discriminator losses. In addition to visual inspection, model performance is quantitatively evaluated using the Frechet Inception Distance (FID), which shows a significant reduction after architectural modifications, indicating improved realism and similarity between generated and real images. Overall, this project demonstrates a solid understanding of GAN architectures, generative model evaluation, and the challenges involved in high-quality image generation





Project

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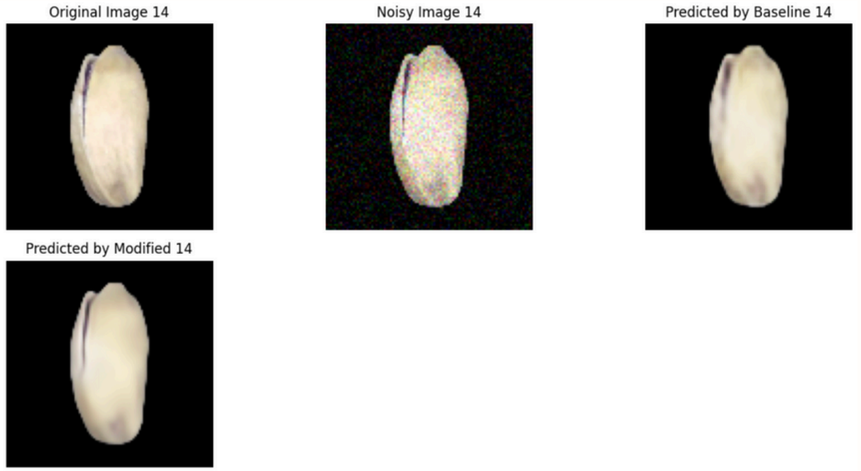
Neural Network Based Gaussian Noise Removal

Neural Network–Based Gaussian Noise Removal is a deep learning project that focuses on removing Gaussian noise from images using a neural network model. The objective of this project is to understand how neural networks can learn pixel-level noise patterns and reconstruct cleaner images while preserving important structural details. The baseline model achieved an SSIM score of 0.9709, indicating a very high level of structural similarity between the reconstructed images and the original images. After applying architectural modifications, the SSIM score increased to 0.9788, demonstrating an improvement in preserving image structure. Although the numerical difference is relatively small, this improvement is meaningful in terms of visual quality, especially for applications that require high-fidelity image reconstruction.



Project

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Object-Oriented Iris Classification System

Object-Oriented Iris Classification System is a fundamental machine learning project that focuses on building a supervised classification model using Python and Object-Oriented Programming principles. The project aims to classify iris flower species based on their physical measurements, such as sepal and petal dimensions. Beyond model performance, this project emphasizes clean code structure, modular design, and reusability by organizing the machine learning workflow into well-defined classes for data handling, model training, and prediction. Through this project, I strengthened my understanding of classification fundamentals, data preprocessing, and how to structure machine learning code in a maintainable way before working on more complex, real-world data science problems.

Skills and Expertise

1. Data Analysis & Exploratory Data Analysis (EDA)
2. Machine Learning & Predictive Modeling
3. SQL & Data Engineering Basics

As a data enthusiast, I am passionate about exploring data to uncover patterns, generate insights, and support data-driven decision making through analytics, machine learning, and visualization

I enjoy working with data end-to-end, from data cleaning and exploration to building predictive models and communicating insights in a clear and structured way.

4. Data Visualization & Dashboarding
5. Deep Learning
6. Natural Language Processing (NLP)

typography

Currently Project

This research focuses on sentiment classification of public product reviews by comparing transformer-based and deep learning baseline models. The study utilizes IndoBERT as the main model and compares its performance against CNN and LSTM as baseline approaches. The dataset consists of user-generated reviews that are preprocessed and labeled for sentiment analysis.

The objective of this research is to evaluate how contextual language representations from IndoBERT perform compared to traditional neural network architectures in capturing semantic and contextual information in Indonesian text. The results demonstrate that IndoBERT achieves superior performance in sentiment classification tasks, highlighting the effectiveness of transformer-based models for natural language processing in low-resource and non-English languages.

Sentiment Classification of Public Reviews on Skintific Moisturizer Using Data Scraped from Female Daily

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***Abstract*— The rapid growth of the digital skincare industry has encouraged consumers to share detailed opinions on specialized platforms. Skintific, a rapidly emerging brand, is frequently discussed, especially concerning its popular moisturizer products. This study aims to classify public sentiment toward Skintific Moisturizers using Indonesian text data scraped from the Female Daily review platform. The research employs a comparative approach utilizing three distinct deep learning architectures: Long Short-Term Memory (LSTM), Convolutional Neural Network (CNN), and the pre-trained Indonesian language model, IndoBERT. After standard Natural Language Processing (NLP) preprocessing, the models were trained and evaluated. The results indicate that while IndoBERT provided the strongest baseline performance due to its comprehensive understanding of Indonesian context, LSTM demonstrated superior capability in capturing sequential dependencies and nuanced contextual meaning in long-form reviews. Conversely, CNN was effective in identifying local, sentiment-bearing phrases related to product attributes (e.g., 'tekstur gel' or 'cegat mersegi'). This research validates the utility of deep learning in providing specialized, actionable consumer insights, supporting data-driven strategies for marketing and refinement of the Skintific moisturizer product line.**

Keywords*— *Sentiment Analysis, Text Classification, Skintific Moisturizer, Female Daily, Deep Learning, IndoBERT LSTM, CNN

I. Introduction

Beauty products, especially skincare, are developed to support skin health while improving physical appearance [1]. However, the rapid expansion of the skincare market has resulted in a wide range of brands, not all of which deliver consistent quality or effectively address consumer expectations [2]. As a result, consumers increasingly rely on online reviews to minimize the risk of selecting inappropriate products. These reviews represent written assessments that convey users' opinions, experiences, and emotional responses toward a product [3, 4]. In addition to assisting prospective buyers in making well-informed purchasing decisions, online reviews also contribute to increasing public awareness and interest in skincare products [5]. Platforms such as FemaleDaily.com host extensive collections of skincare reviews, capturing a broad spectrum of consumer experiences and perspectives [6].

In the context of skincare products, sentiment analysis has become increasingly important to evaluate consumer satisfaction and brand reputation. Skintific, as a leading local brand, has garnered significant attention, particularly for its popular moisturizer line. Studies on local skincare brands have applied classical machine learning algorithms such as Naïve Bayes and Support Vector Machine (SVM) to classify sentiments in product reviews [3]. Other research employed pre-trained language models such as IndoBERT to capture linguistic nuances in Indonesian skincare reviews from e-commerce platforms [4]. Recent advances in deep learning have significantly improved sentiment classification accuracy through architectures such as Convolutional Neural Networks (CNN) and Long Short-Term Memory (LSTM) [5].

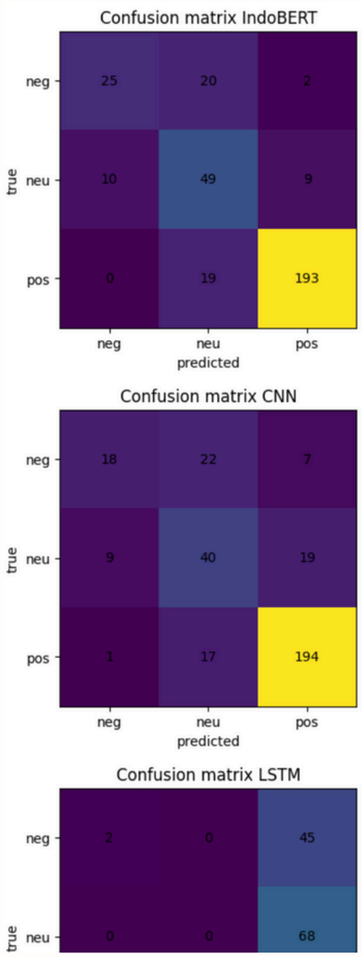
CNNs are effective in identifying local textual features, while LSTM networks excel at capturing sequential dependencies and contextual meaning [6]. Hybrid models combining CNN and LSTM have also demonstrated robust results in classifying product review sentiments, especially in the beauty industry [7]. However, despite the abundance of online reviews, research analyzing consumer sentiment specifically toward Skintific Moisturizer products using a comprehensive deep learning comparison remains limited. Traditional models often fail to interpret informal language, abbreviations, and mixed sentiments expressed in skincare discussions [8].

Machine Learning (ML) used to manage smart home data allows for predicting energy consumption. The results from the predictions can be used to provide recommendations for saving electricity consumption. Still, there are many machine learning models, and it cannot be used on data with very many features or components. [7].

Making some predictions is not enough so that the results of machine learning models can be understood by humans who utilize interpretability models. This happens because the ML model is only understood artificially. It needs human understanding. In predictive ML models, it is usually a black box [8]. To visualize these interpretations of model ML, local interpretable model-agnostic explanations (LIME) are used as one of the interpretation models commonly used for regression models. [9].

In this study, the author proposes a simple model of data taken from a smart home to evaluate the ML model for predicting electrical energy consumption based on feature selection, then interpret the results with the interpretability model. This is done because not many researchers have done it, so this research focuses on this opportunity. The predictions use machine learning models such as Linear Regression, Decision Tree, Random Forest, and XgBoost. Then utilize LIME as Interpretability Model.

This research is divided into 5 sections. Part 1 consists of the background and research objectives, and section 2



Thank you for visiting, and I hope you find inspiration in my work!

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