

(Logistic Regression)

Mushroom

Classification

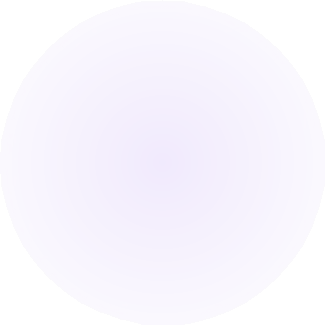
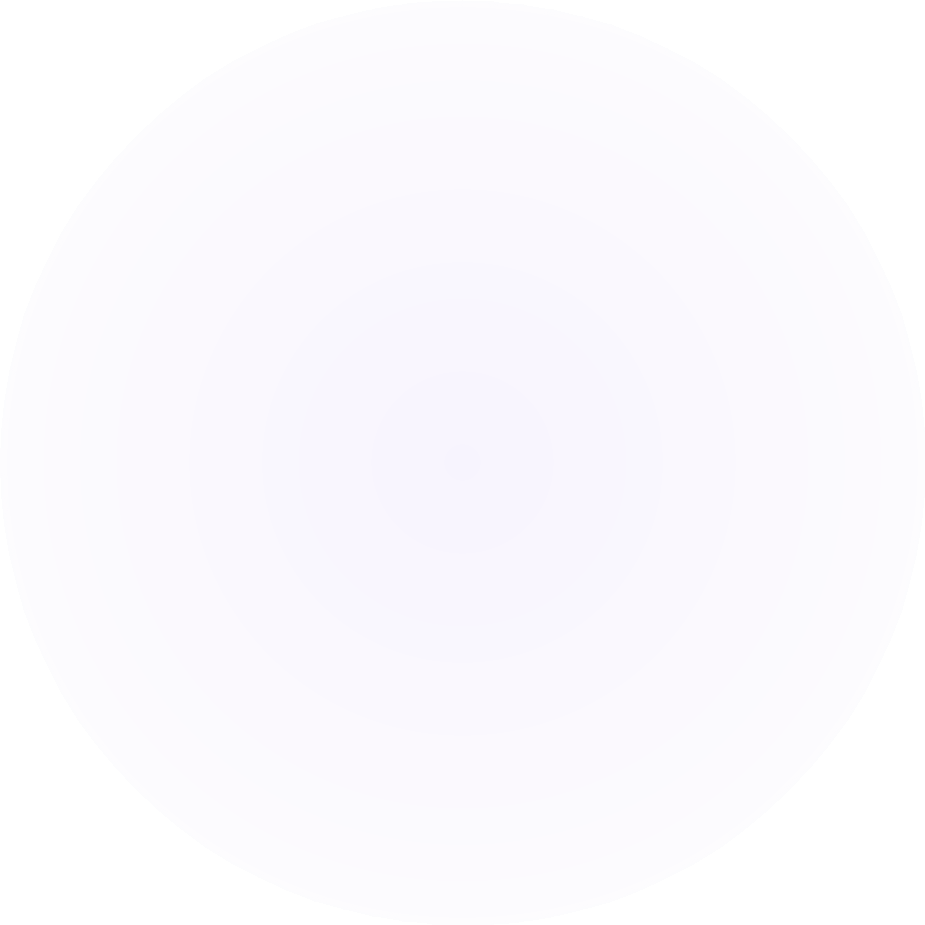
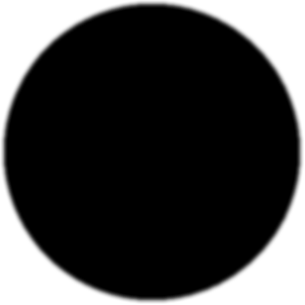
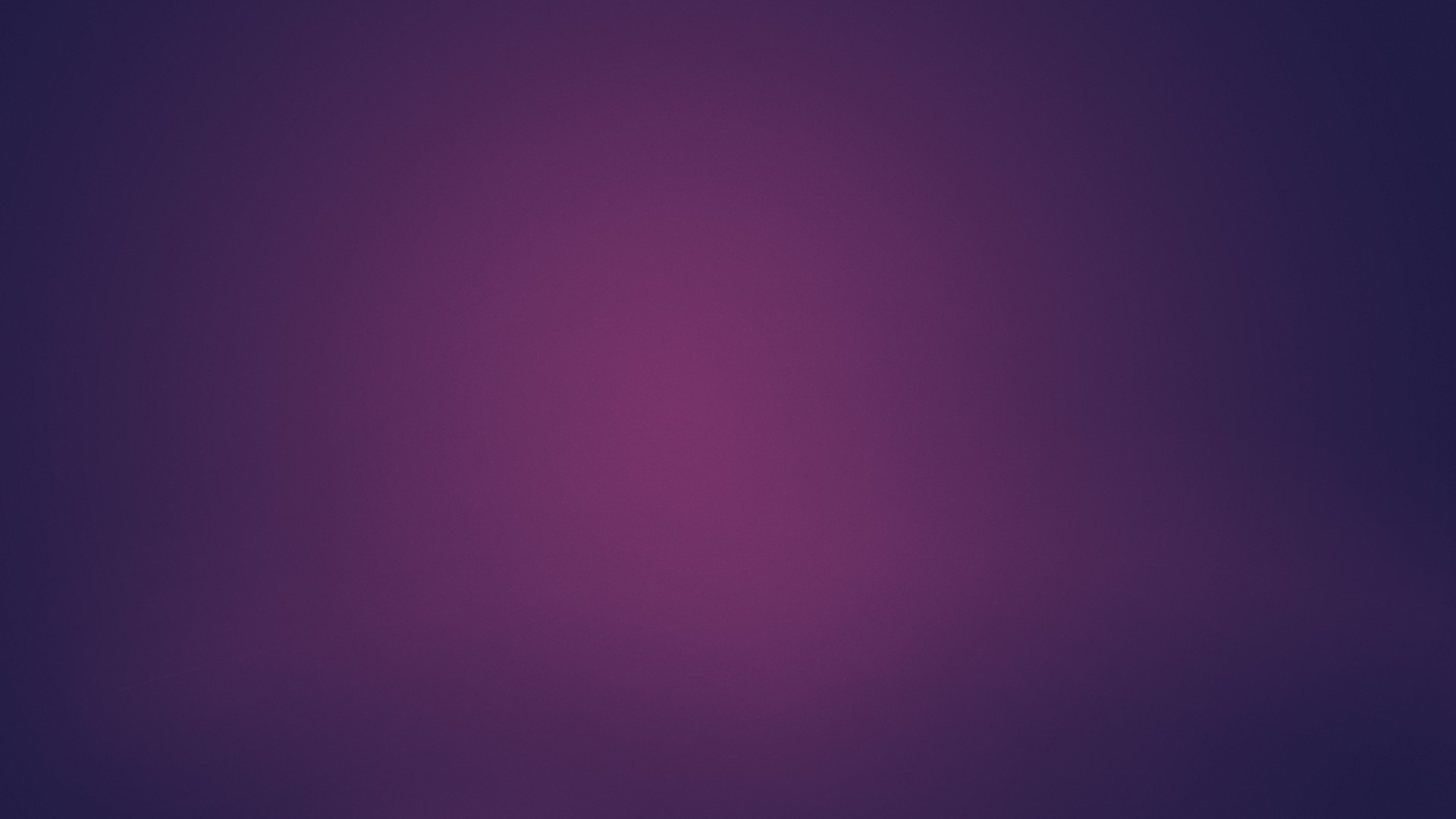
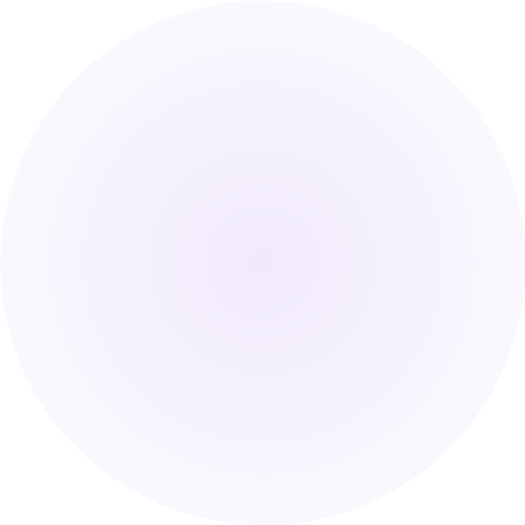
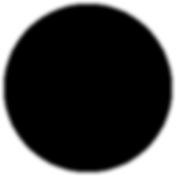
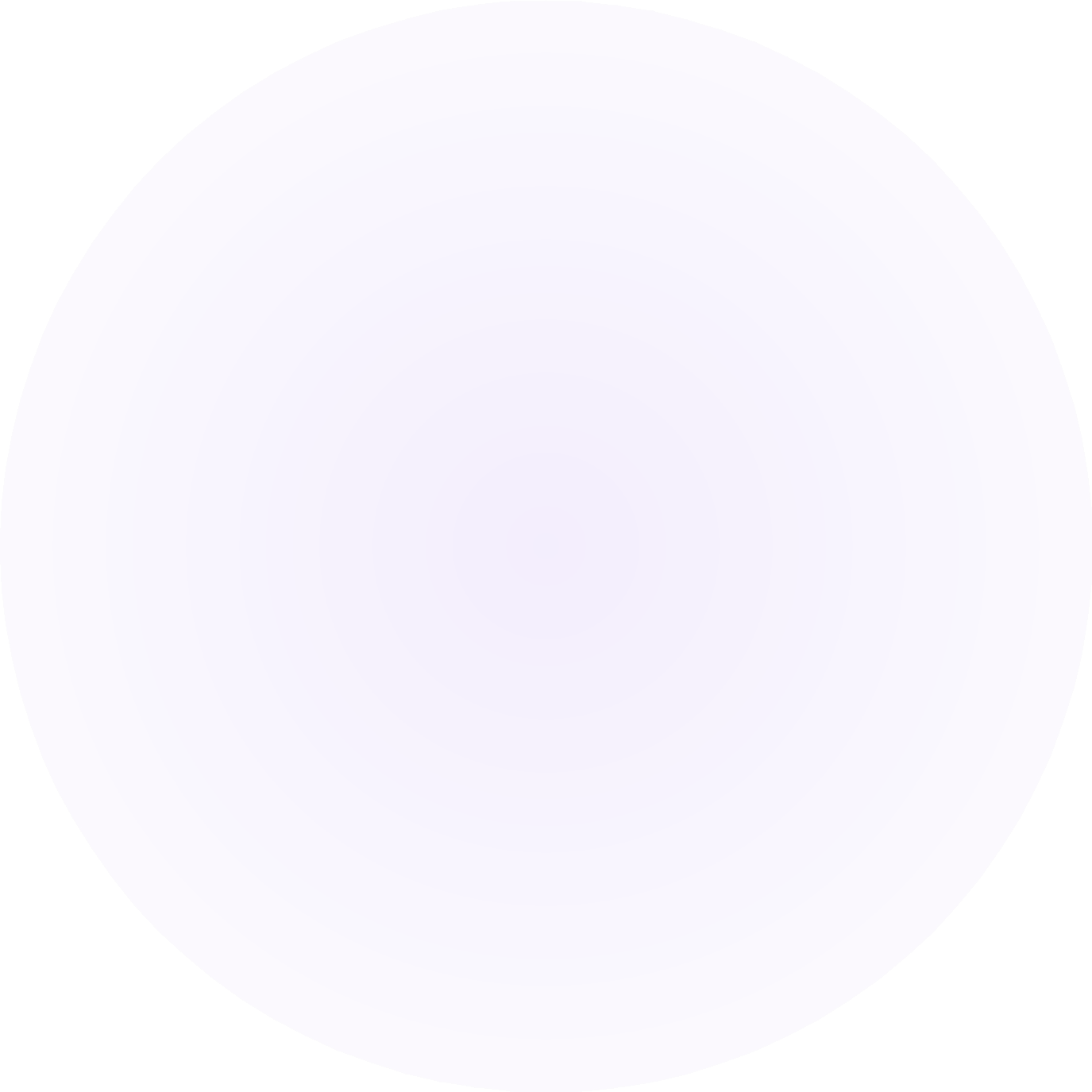
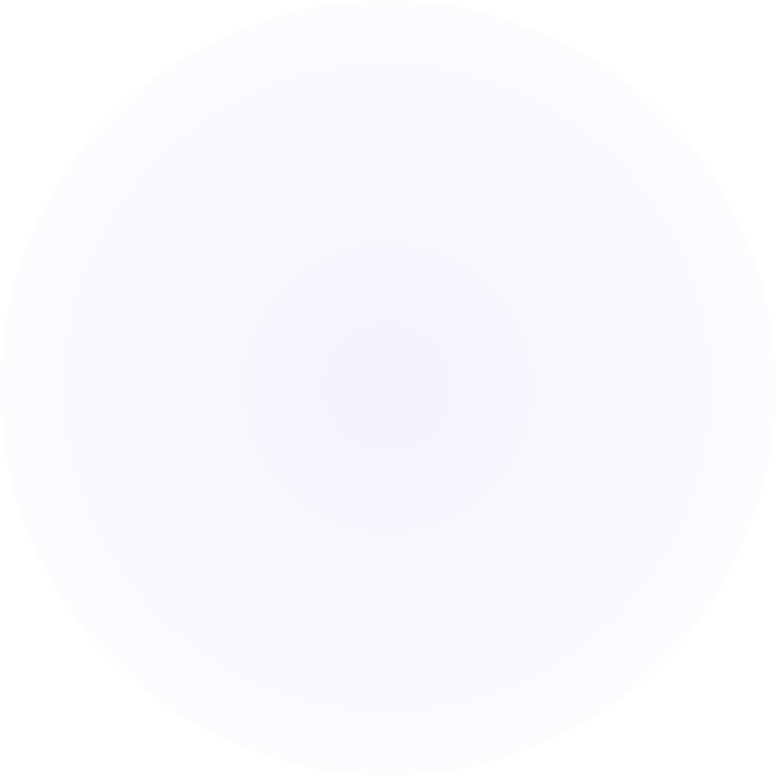
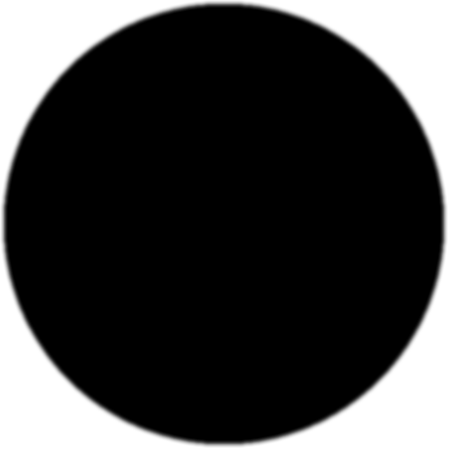
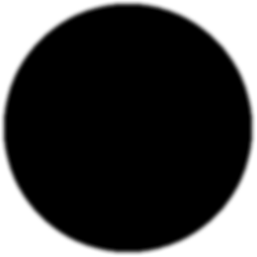
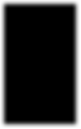
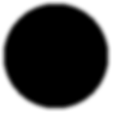
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Created By:- Yash Patle , Sayali

Zambre

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Technology : - Supervised Learning

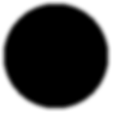
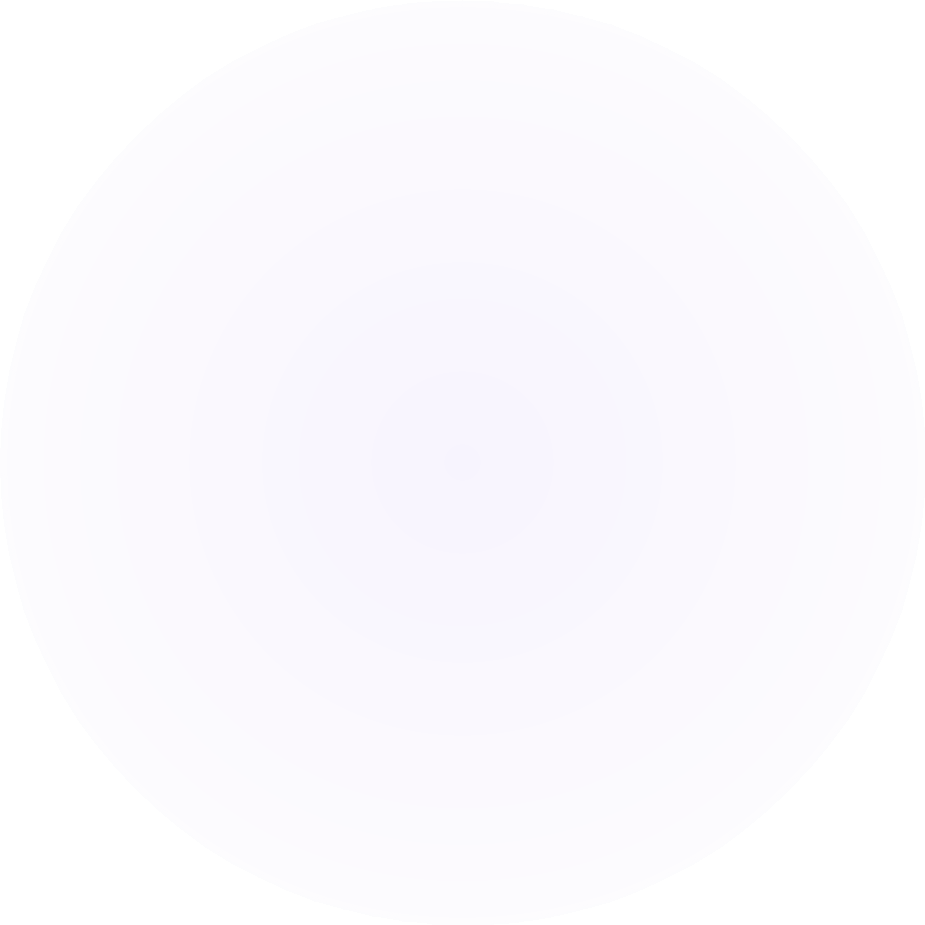
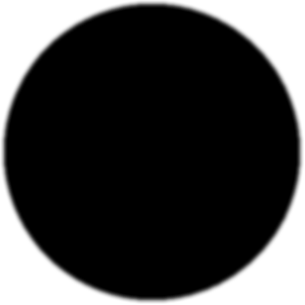
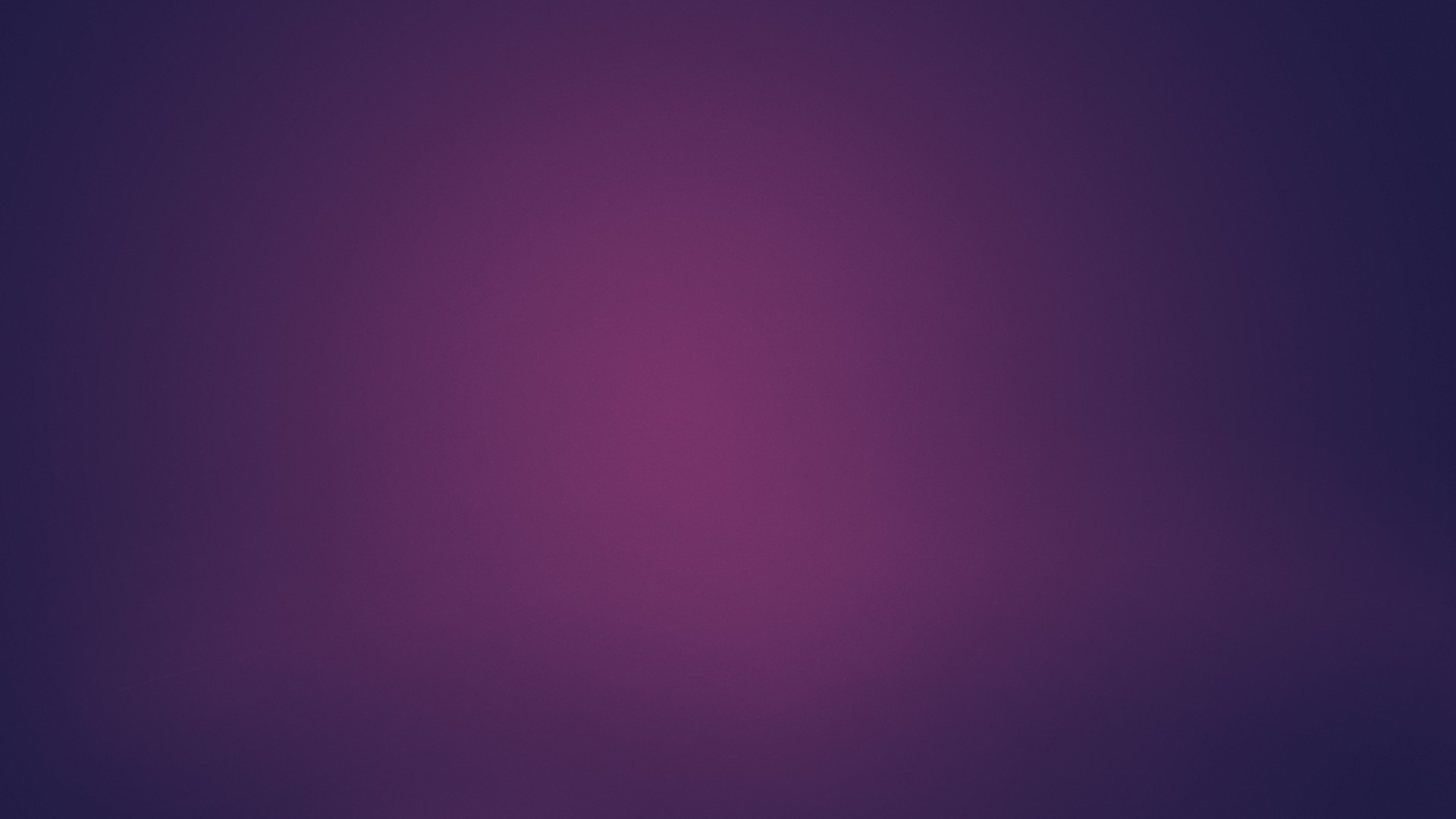
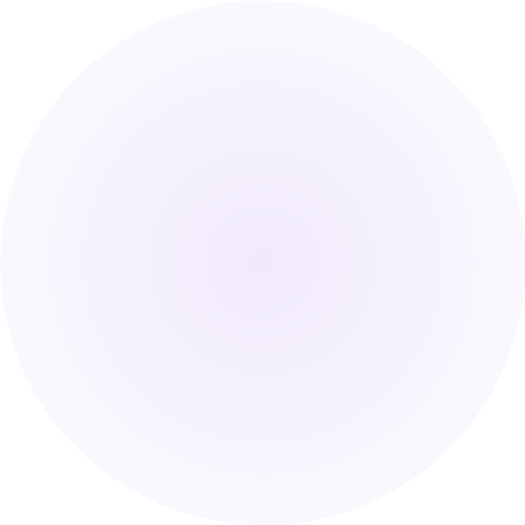
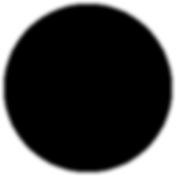
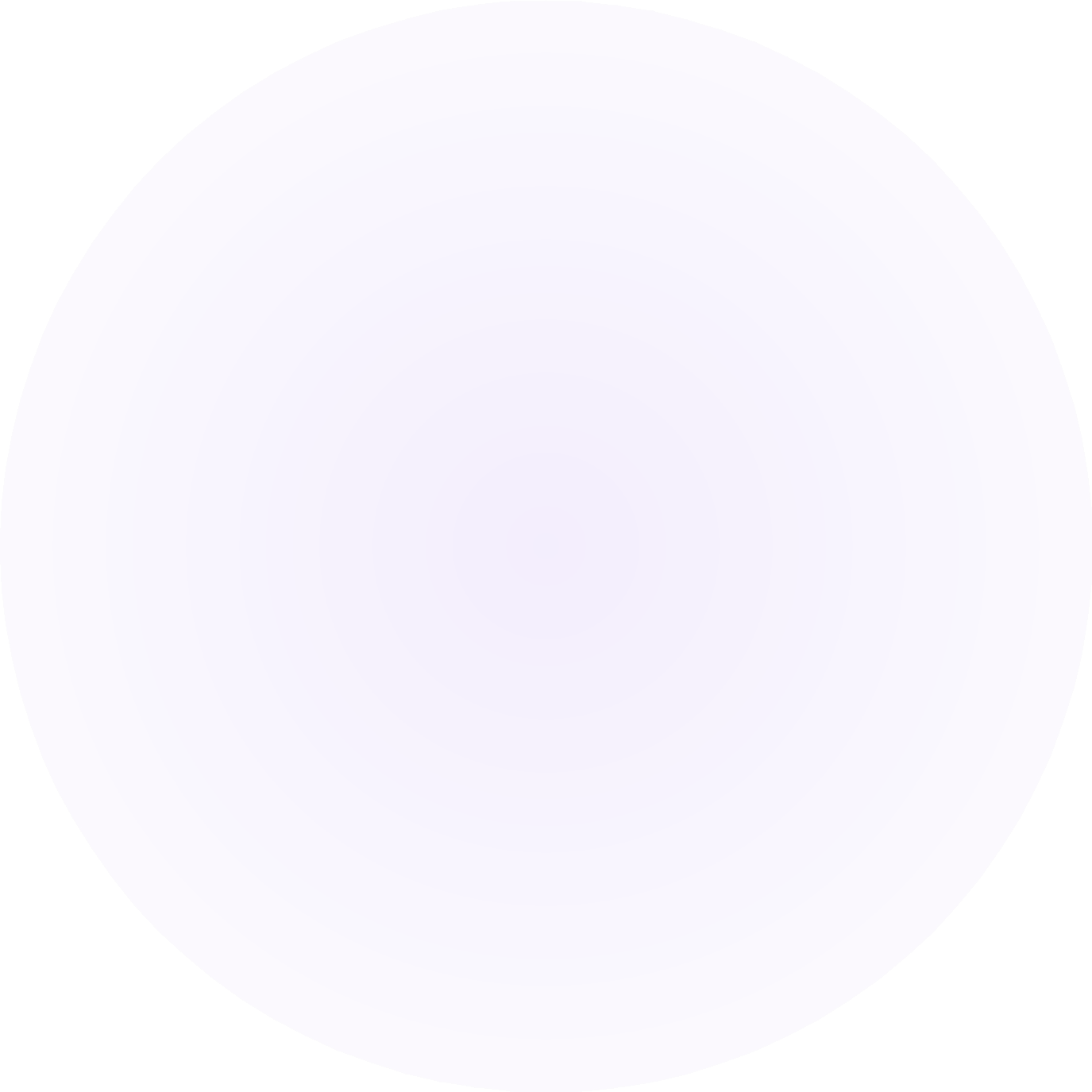
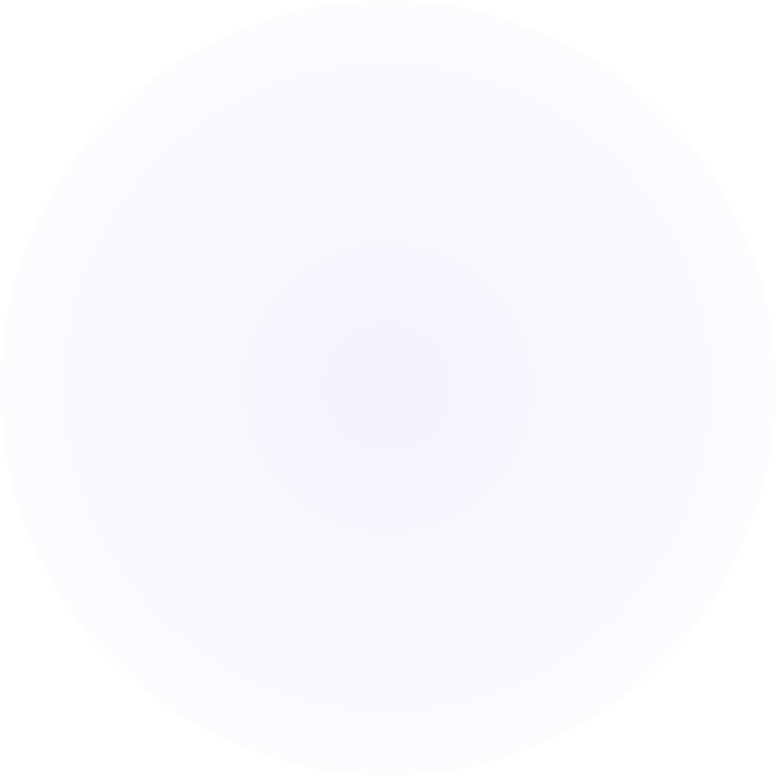
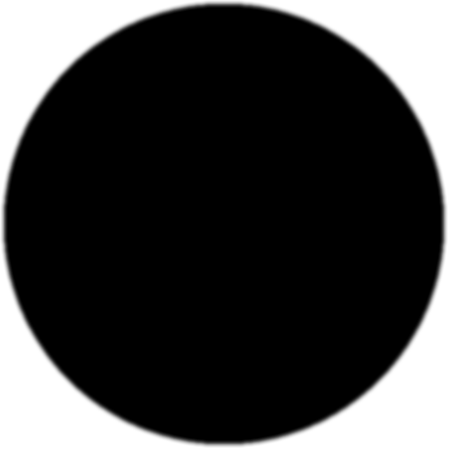
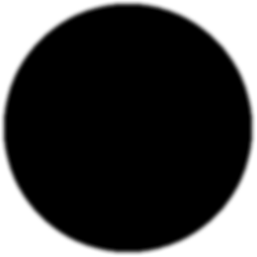
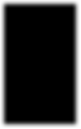
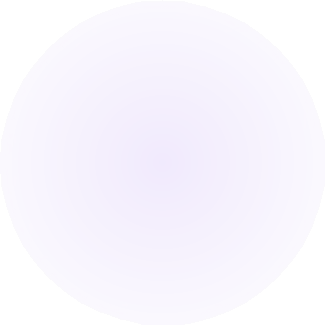


regression.

and key findings of the mushroom classification model using logistic

Provide a concise summary of the report, outlining the purpose, methodology,

Abstract:



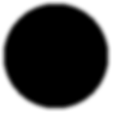
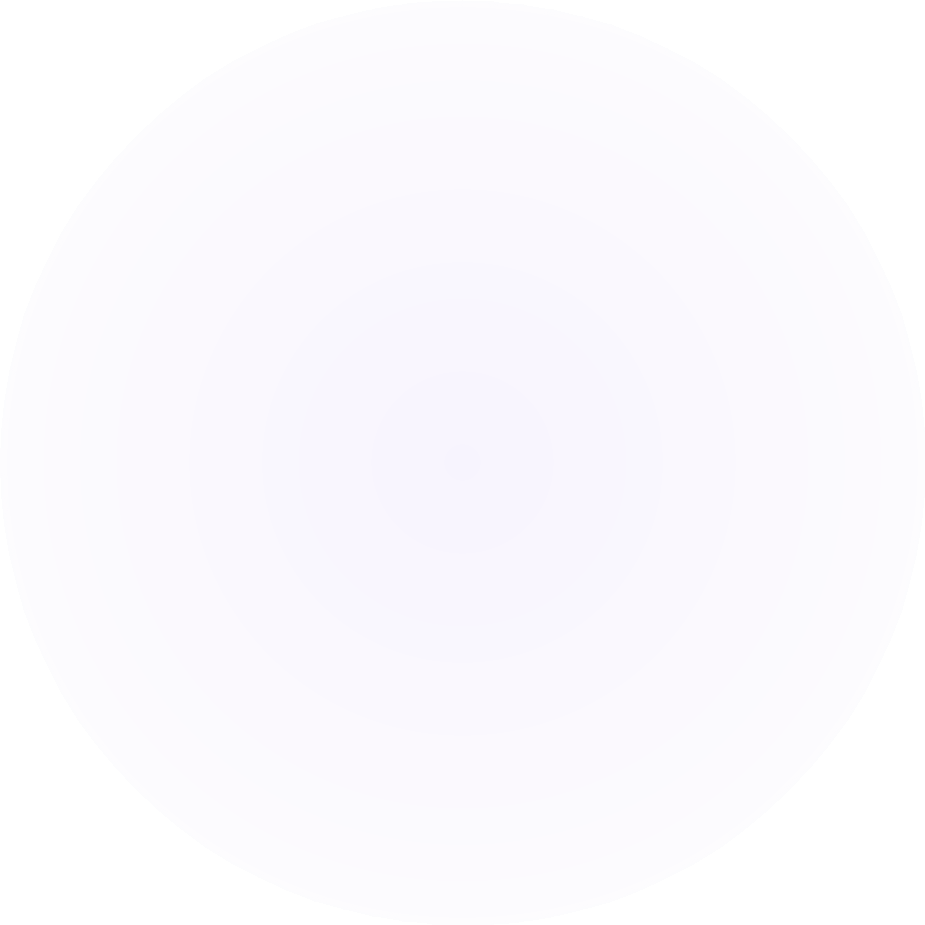
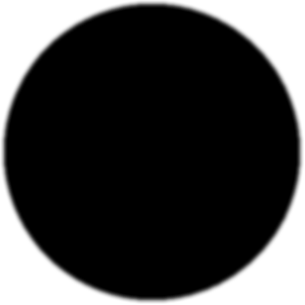
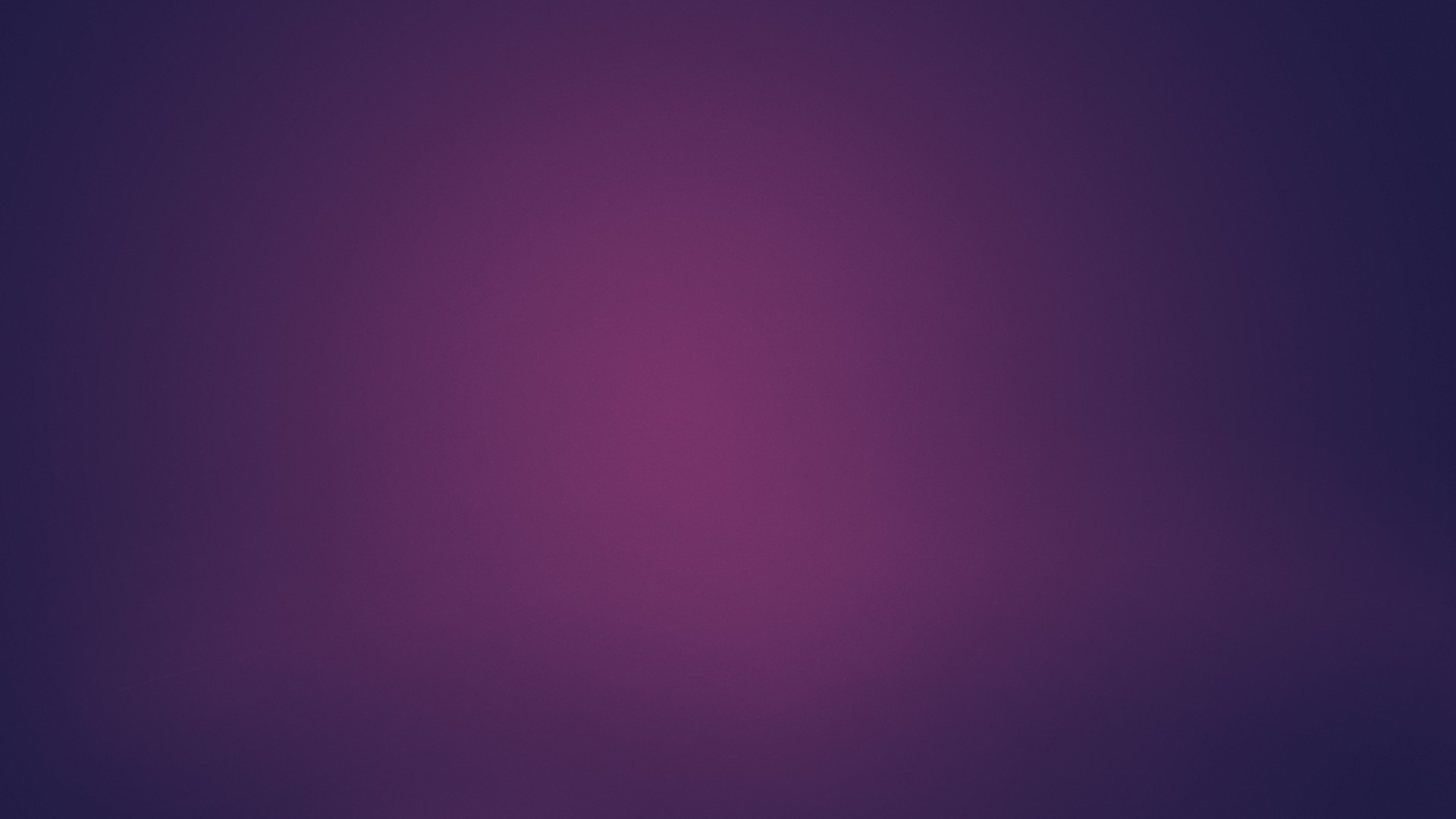
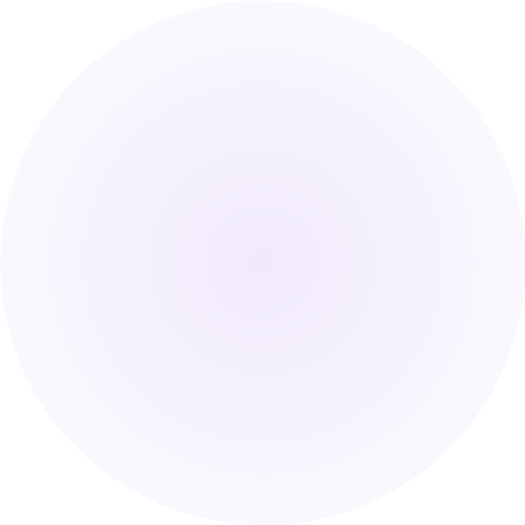
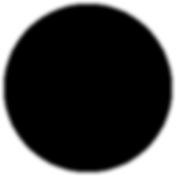
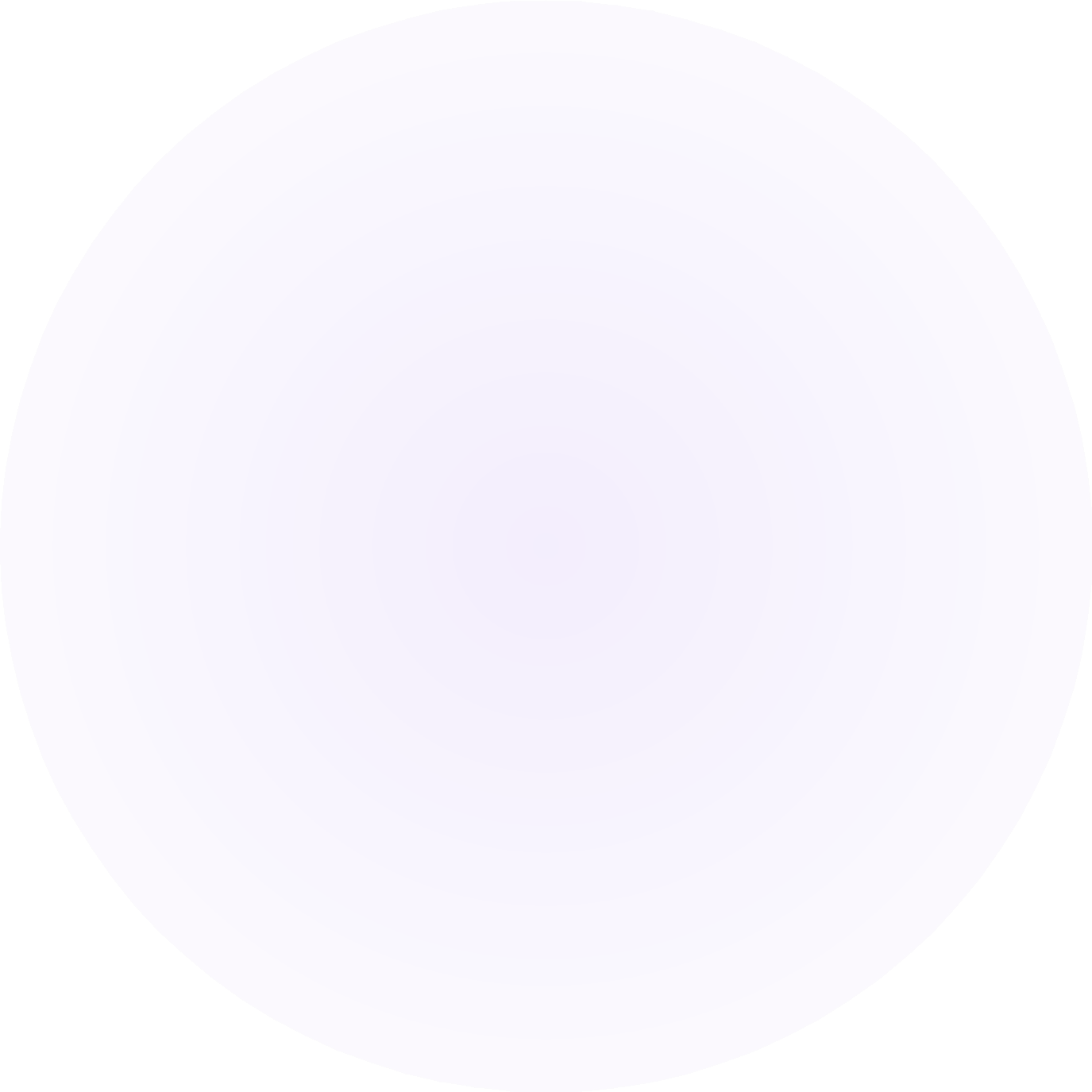
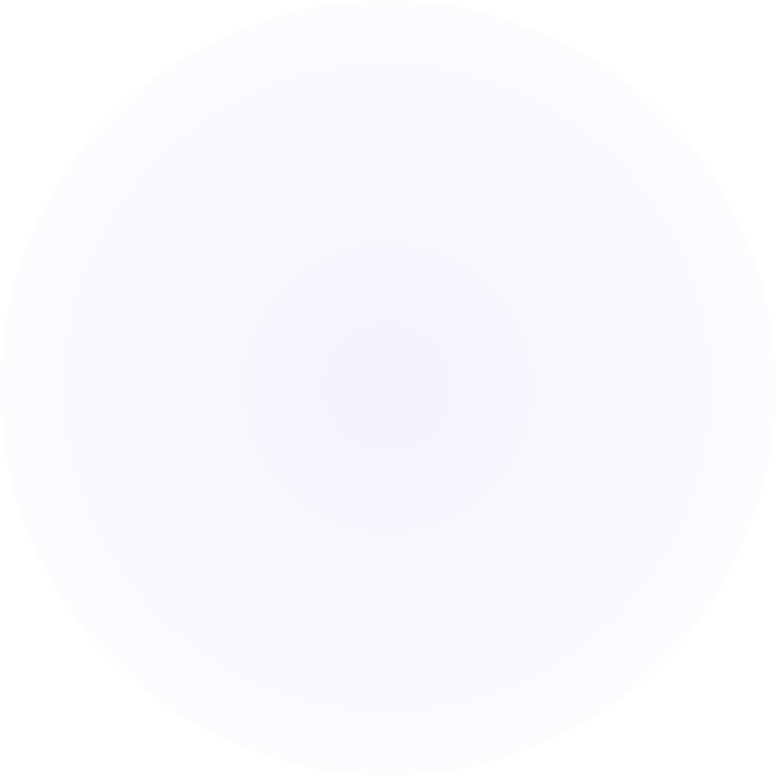
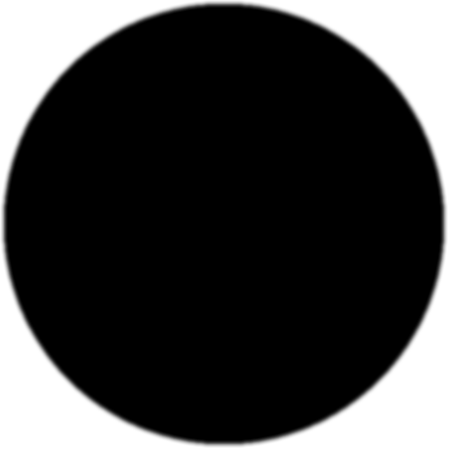
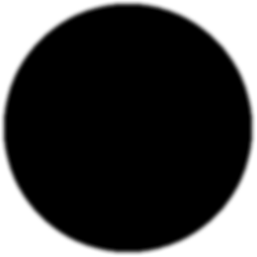
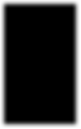
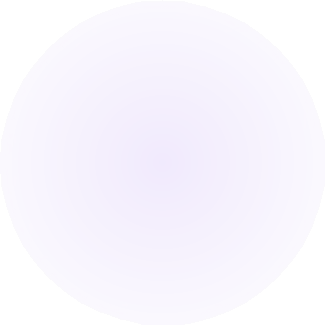
classification.

report and provide an overview of the logistic regression model used for

identification of edible and poisonous mushrooms. Explain the objective of the

Introduce the topic of mushroom classification and the significance of accurate

1. Introduction:



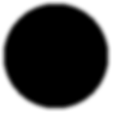
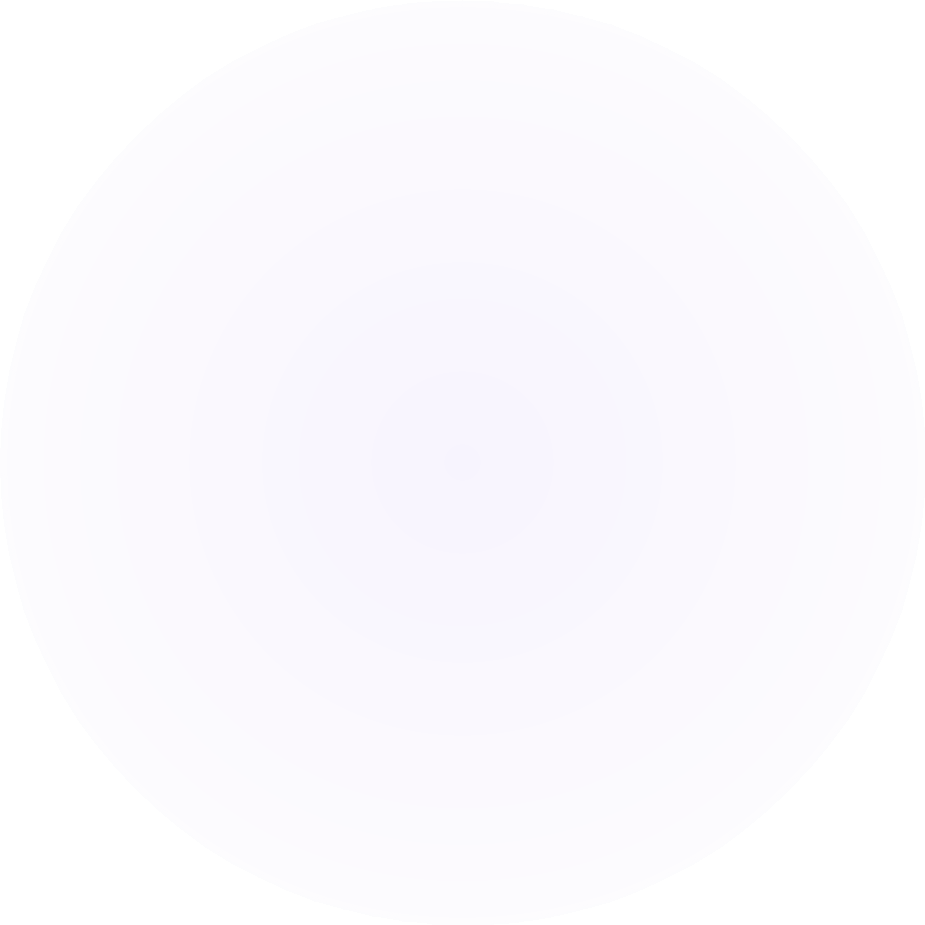
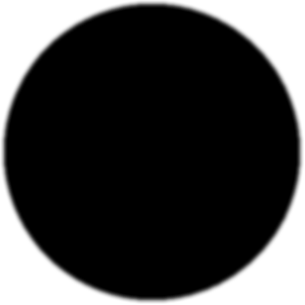
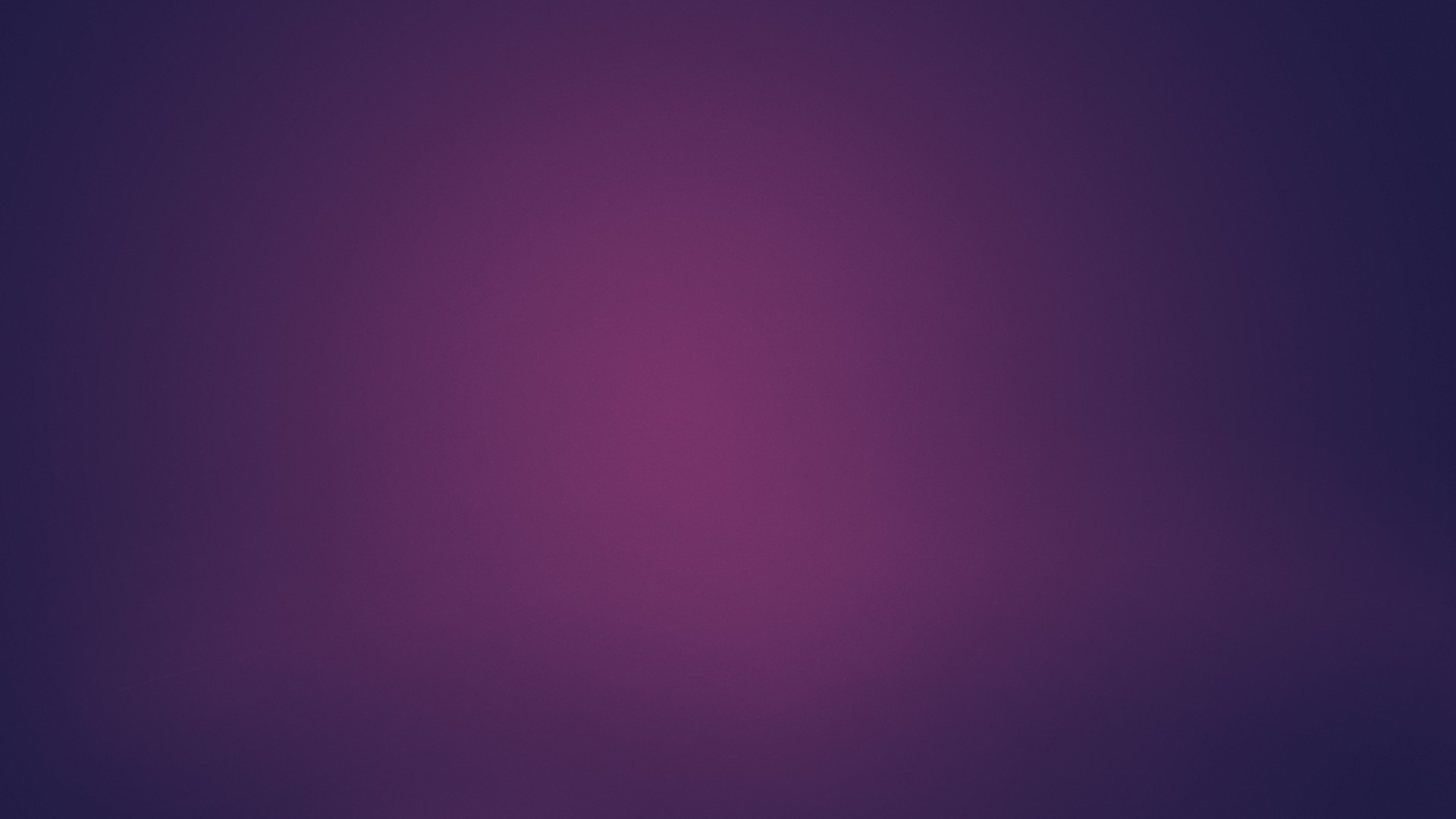
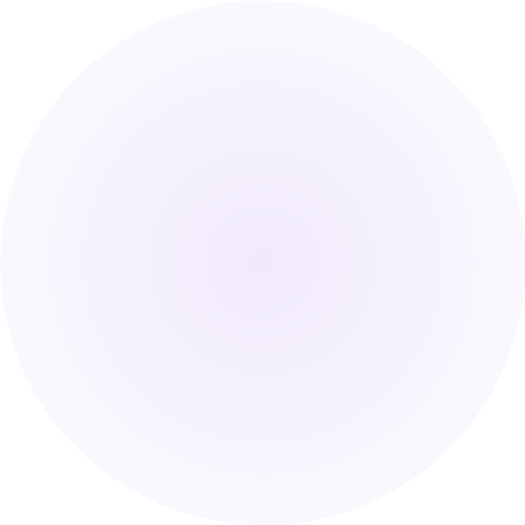
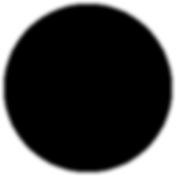
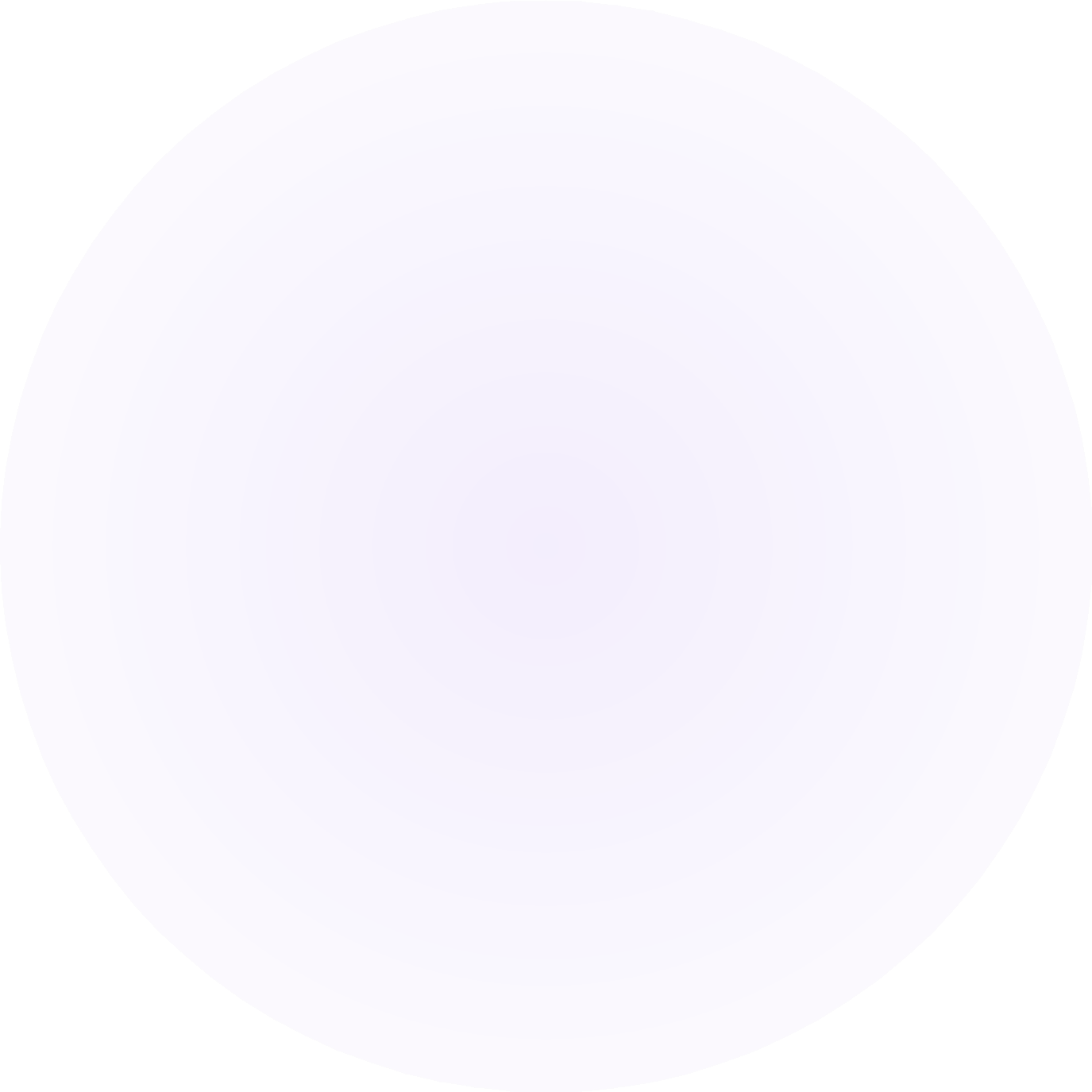
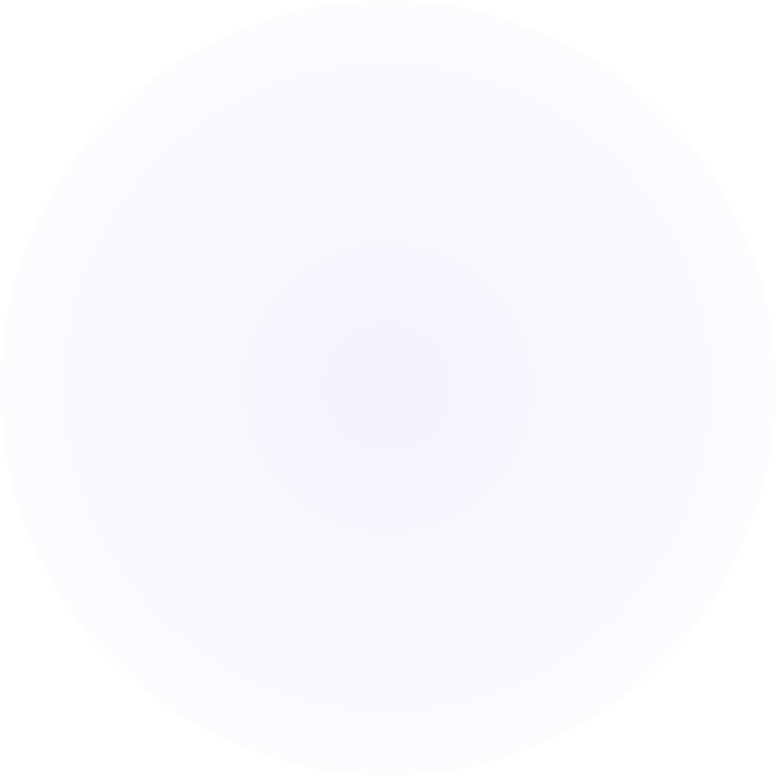
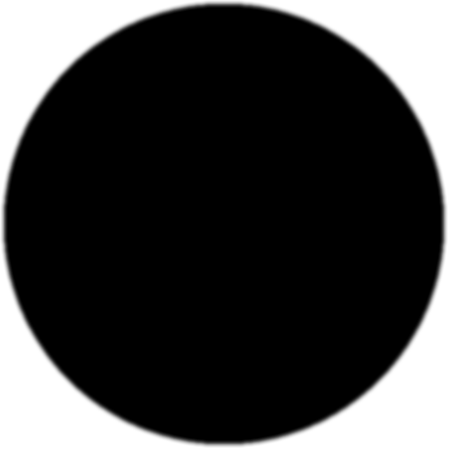
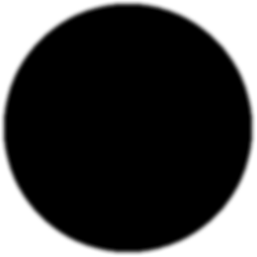
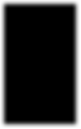
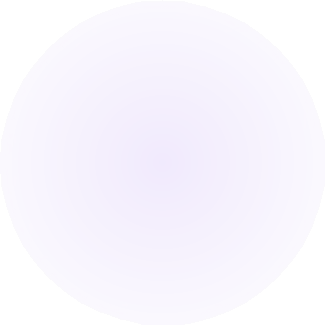
missing values, and encoding categorical variables.

classification. Discuss the preprocessing steps, such as data cleaning, handling

the features available in the dataset and their relevance to mushroom

Describe the mushroom dataset used for model training and evaluation. Explain

2. Dataset and Preprocessing:



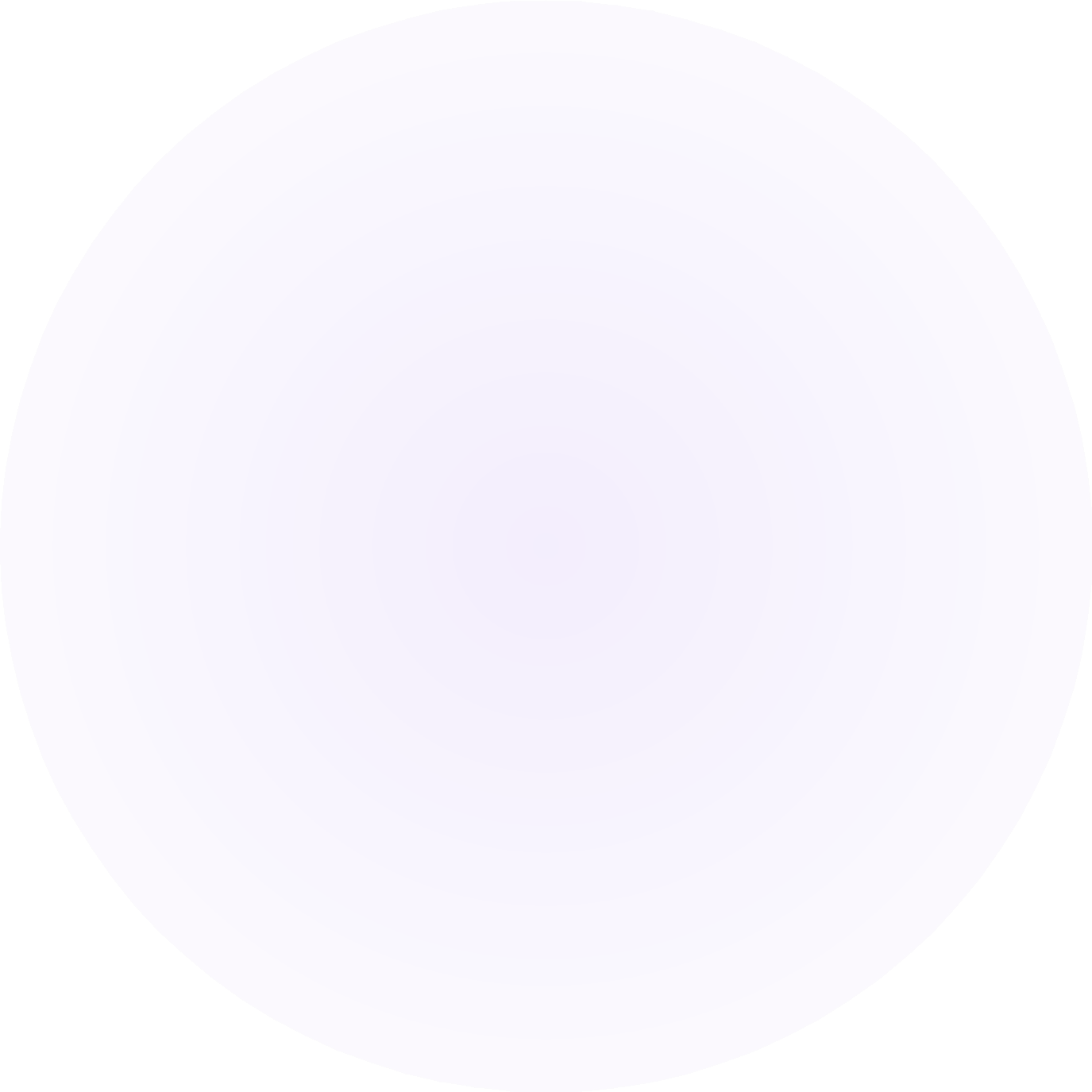
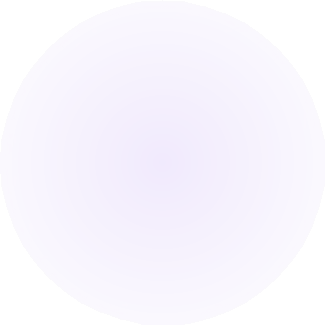
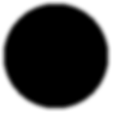
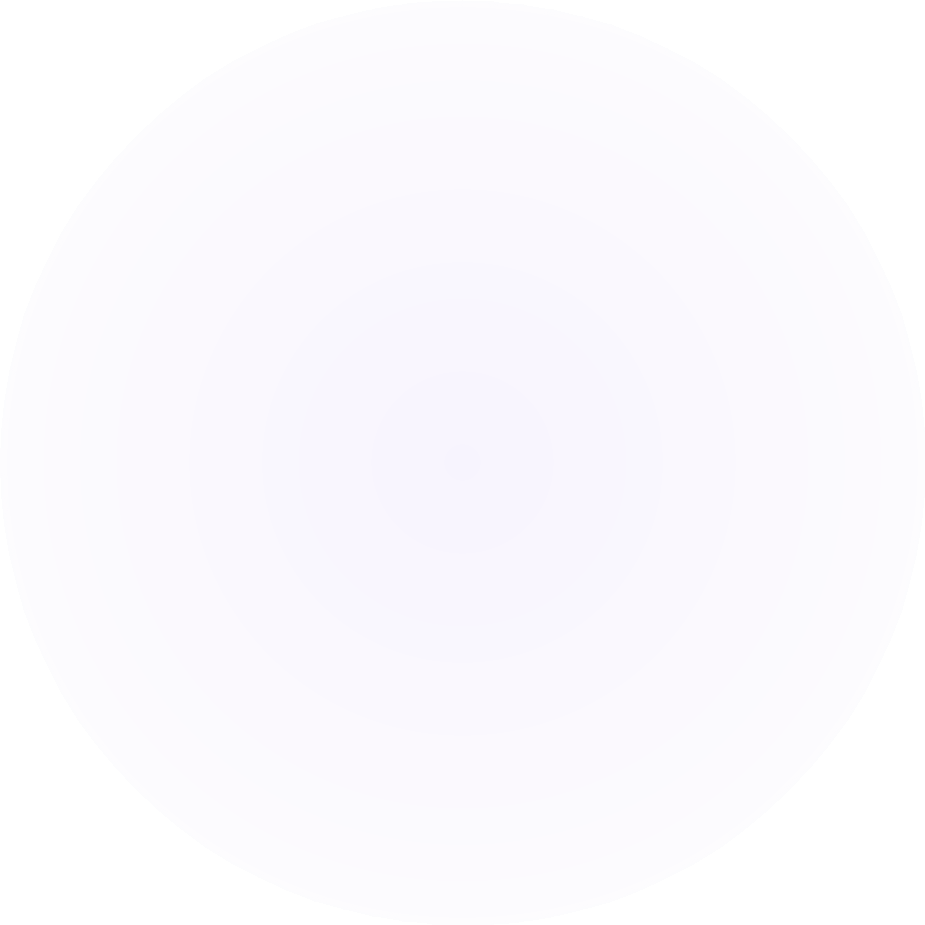
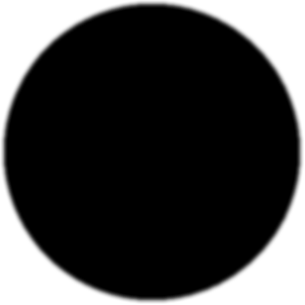
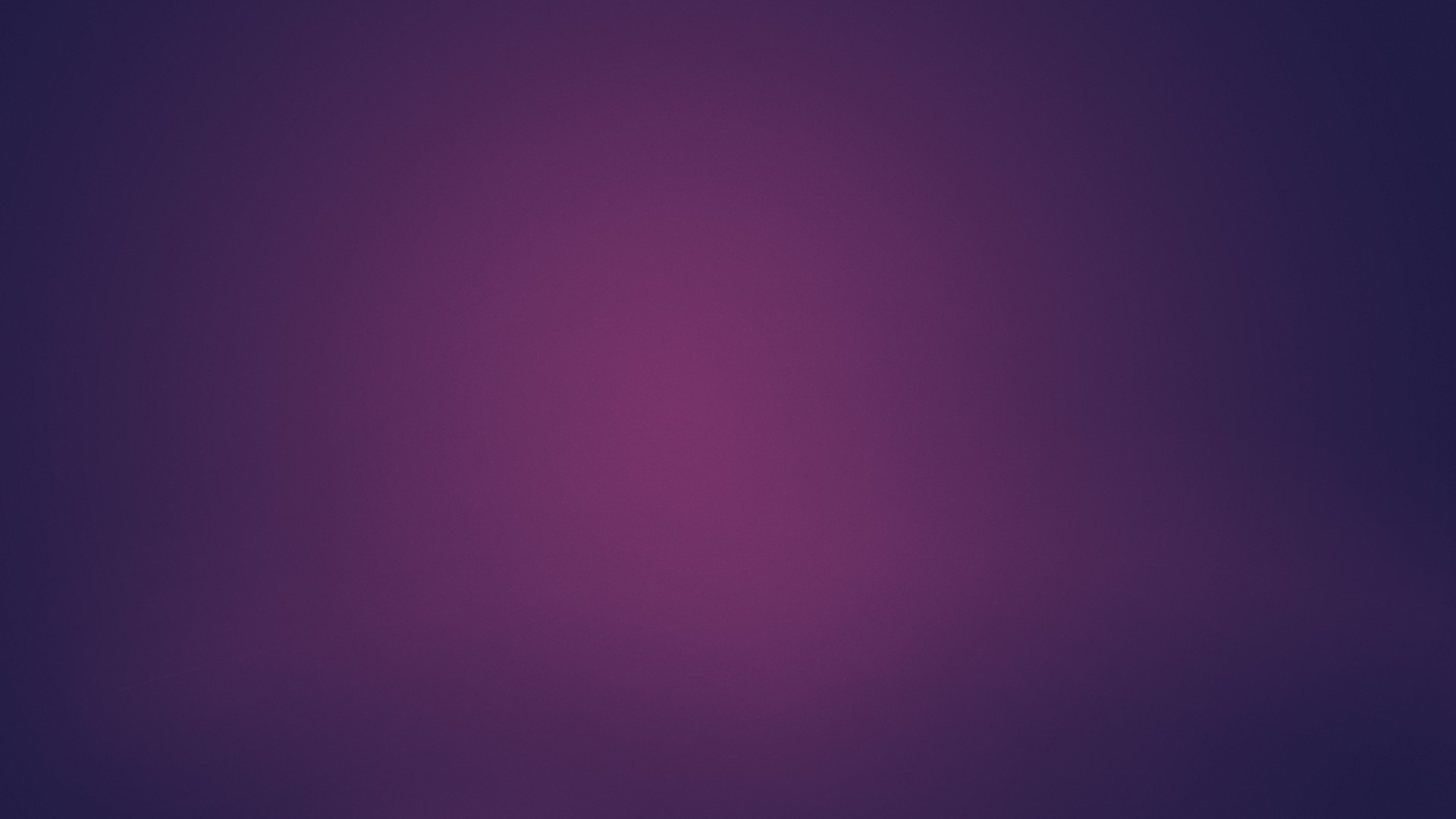
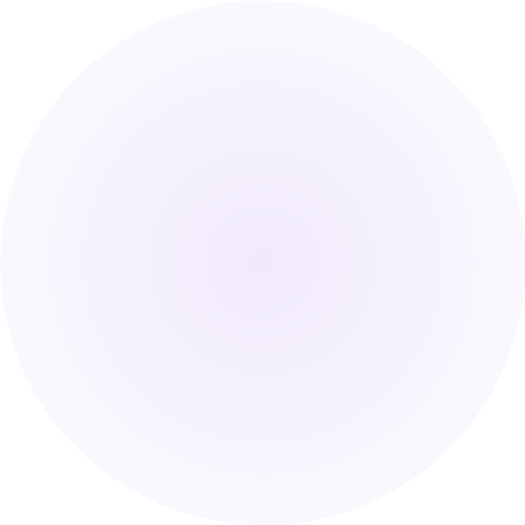
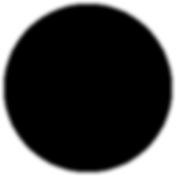
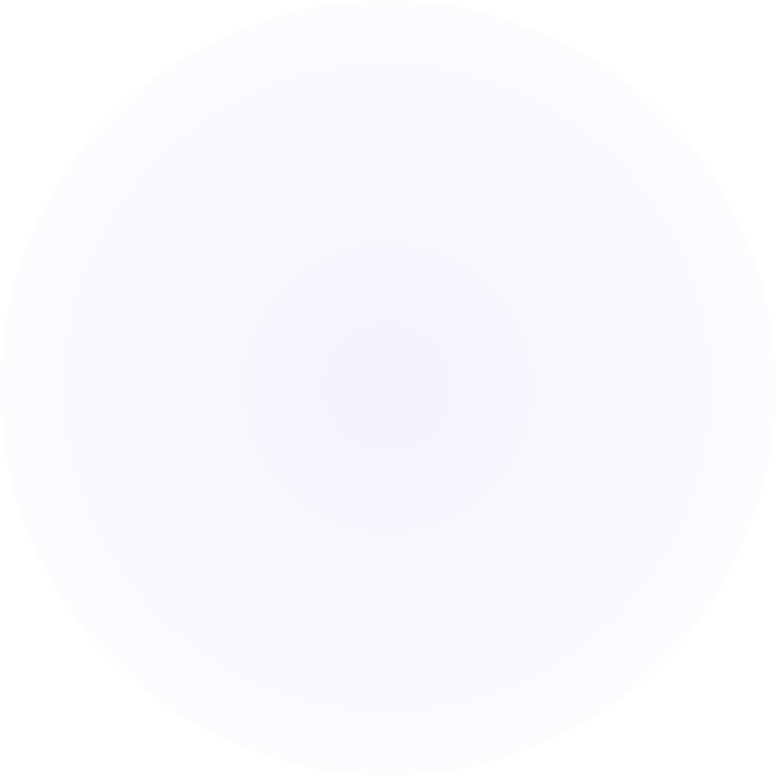
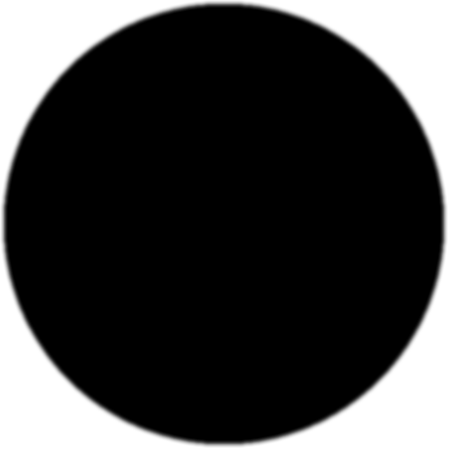
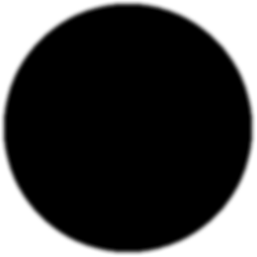
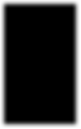
existing ones to improve model performance.

engineering techniques applied, such as creating new features or transforming

the most informative features for the classification task. Discuss any feature

Detail the feature selection process, including techniques employed to identify

3. Feature Selection and Engineering:



performed during training.

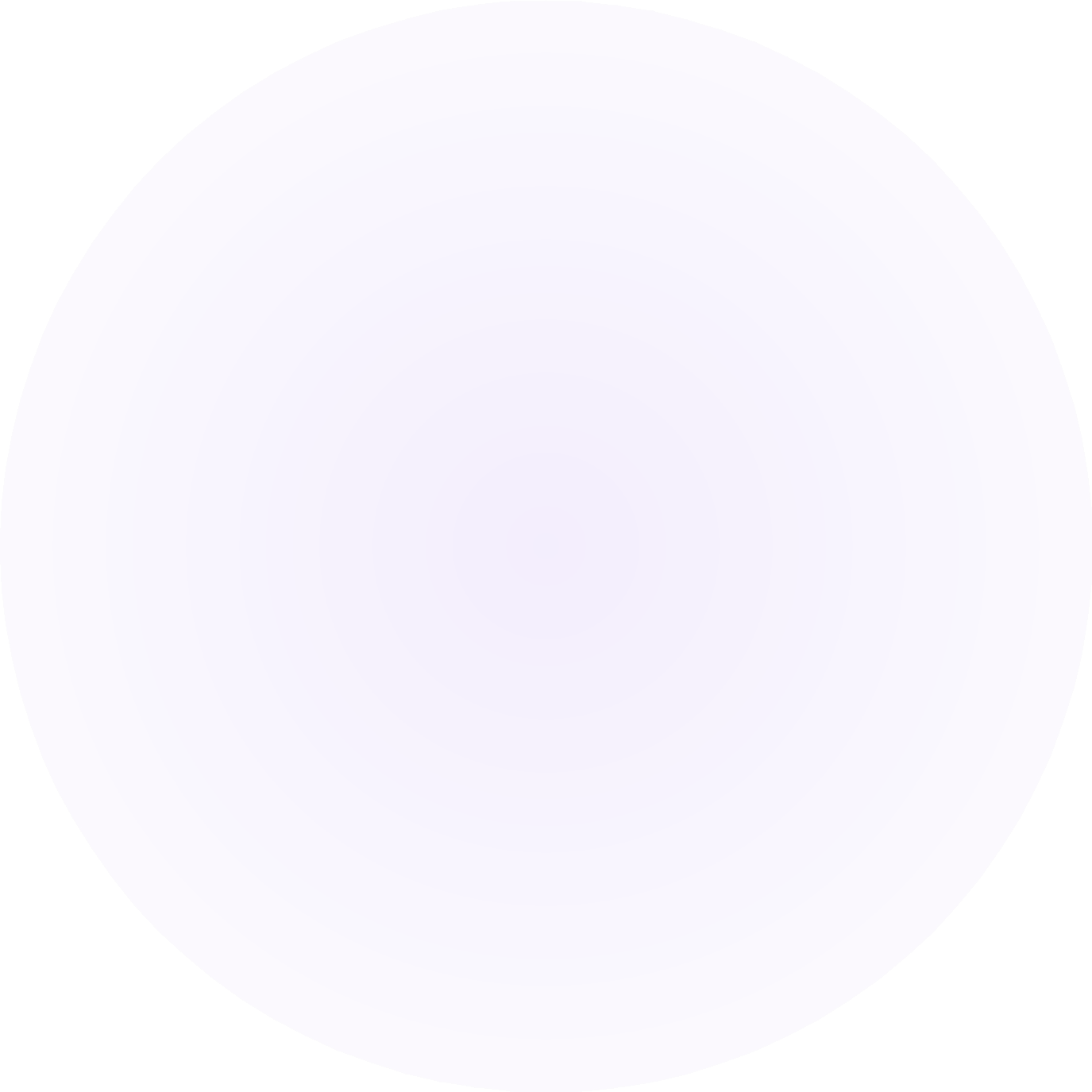
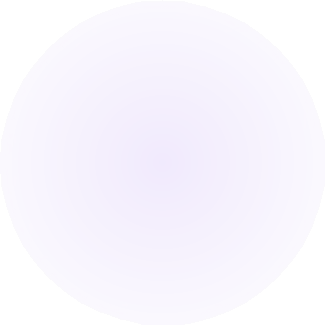
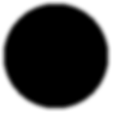
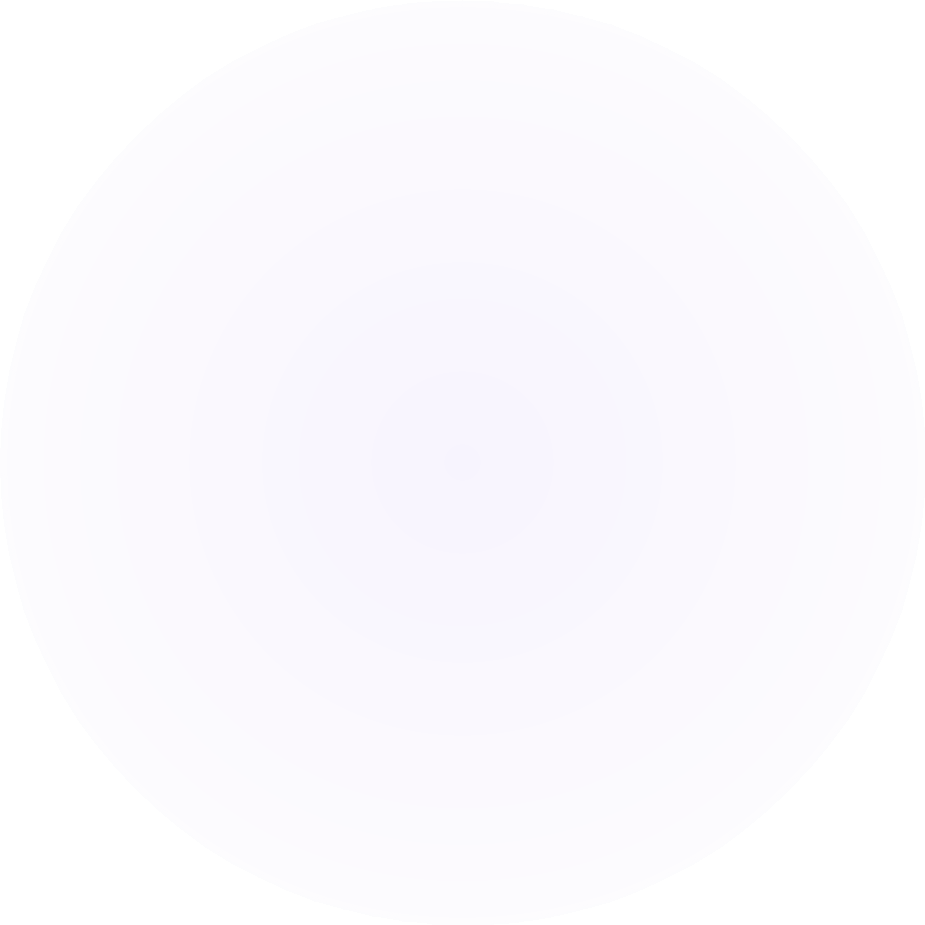
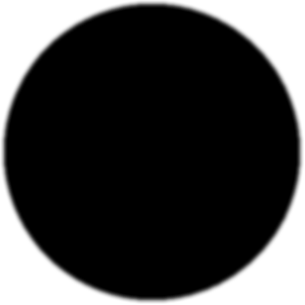
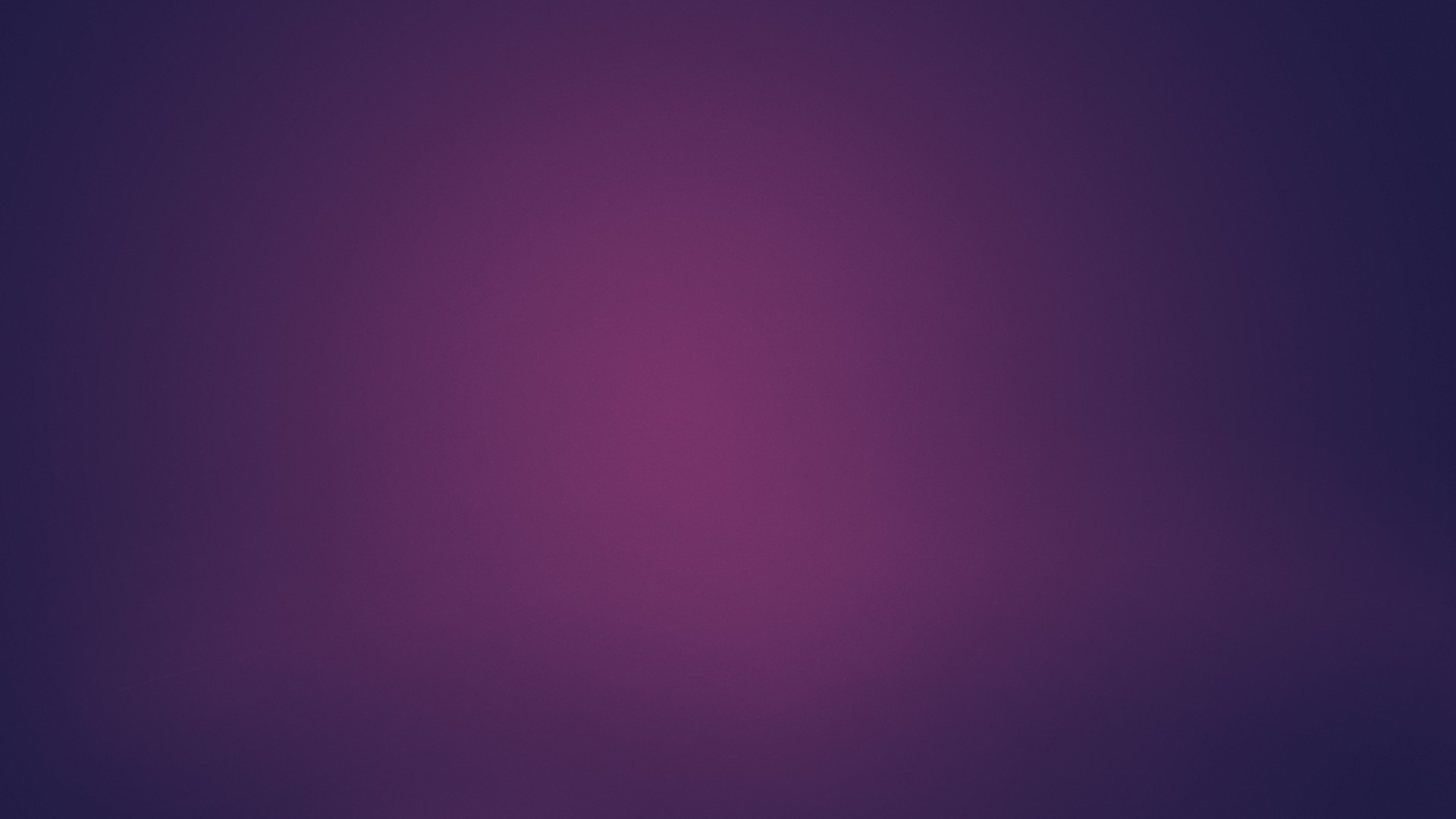
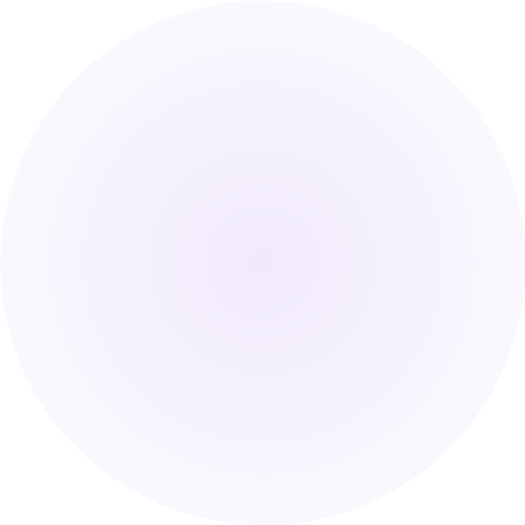
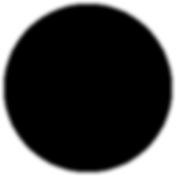
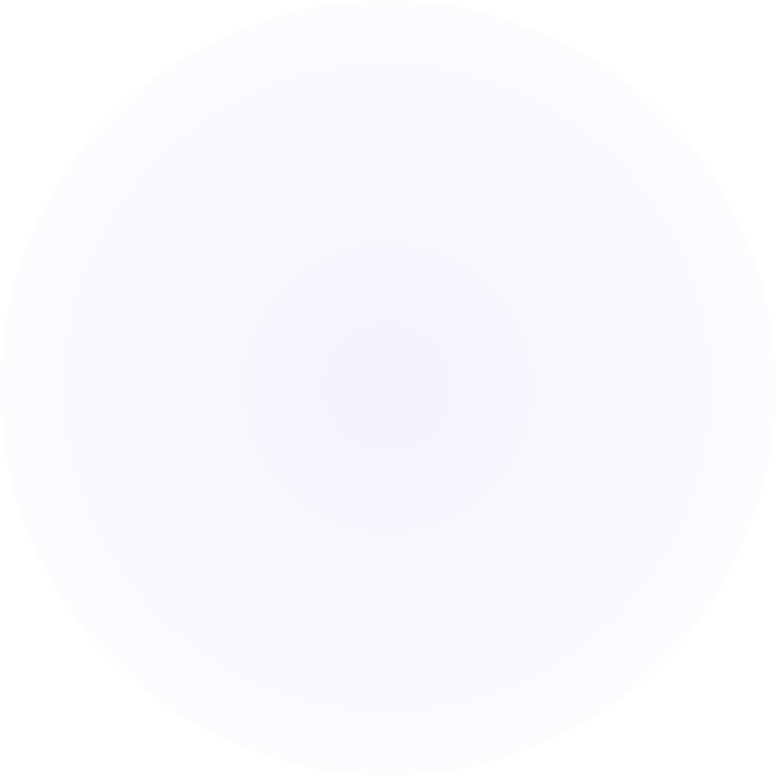
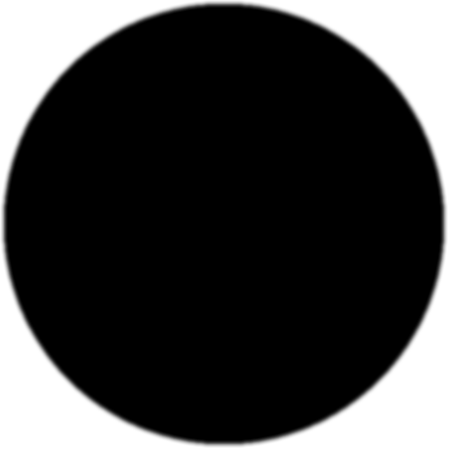
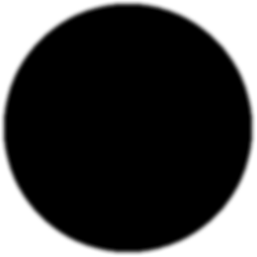
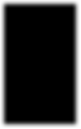
techniques. Discuss any specific considerations or hyperparameter tuning

parameters through gradient descent or other relevant optimization

model. Describe the training process, including the optimization of model

Explain the logistic regression algorithm used for training the classification

4. Model Training:



evaluation.

and highlight any notable observations or challenges encountered during

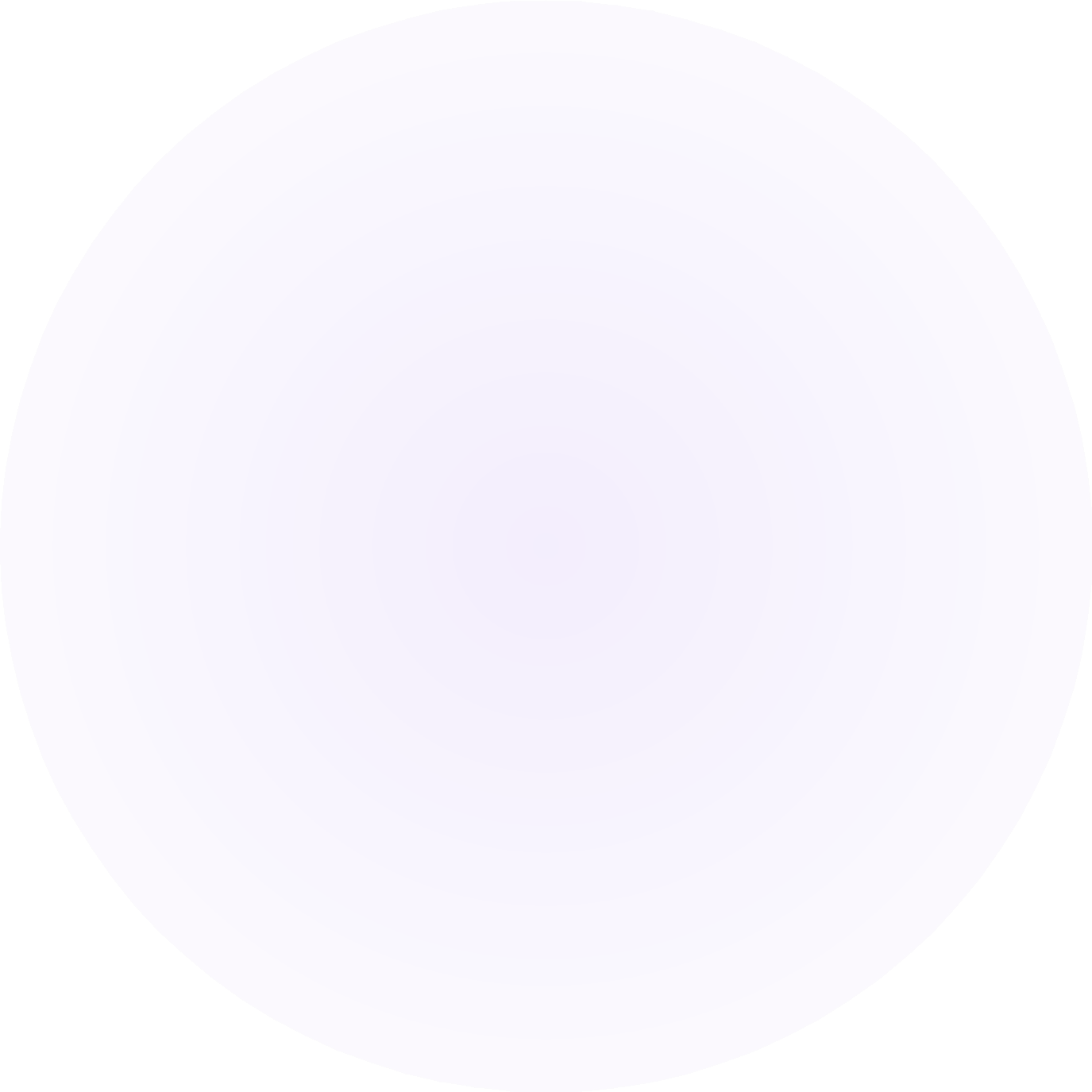
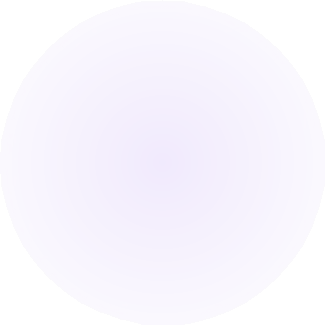
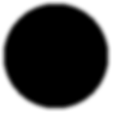
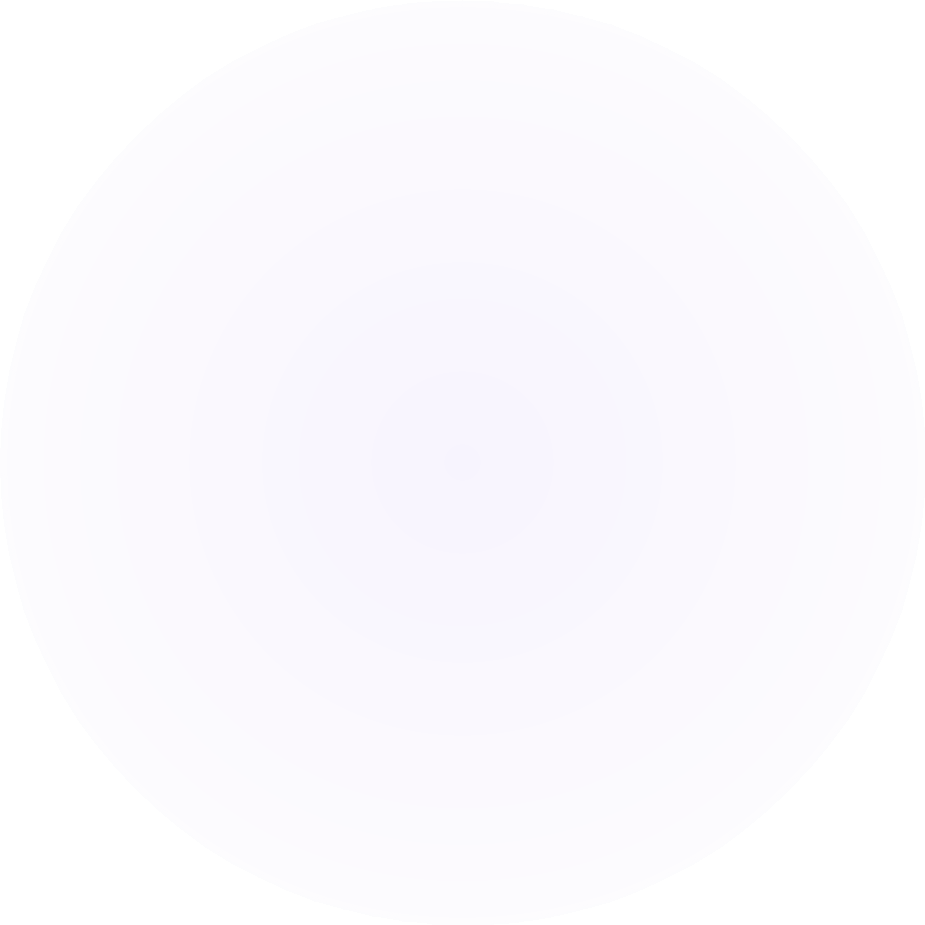
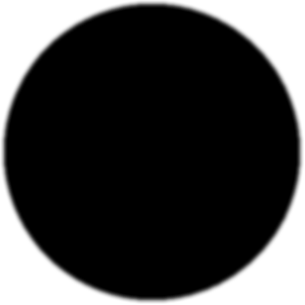
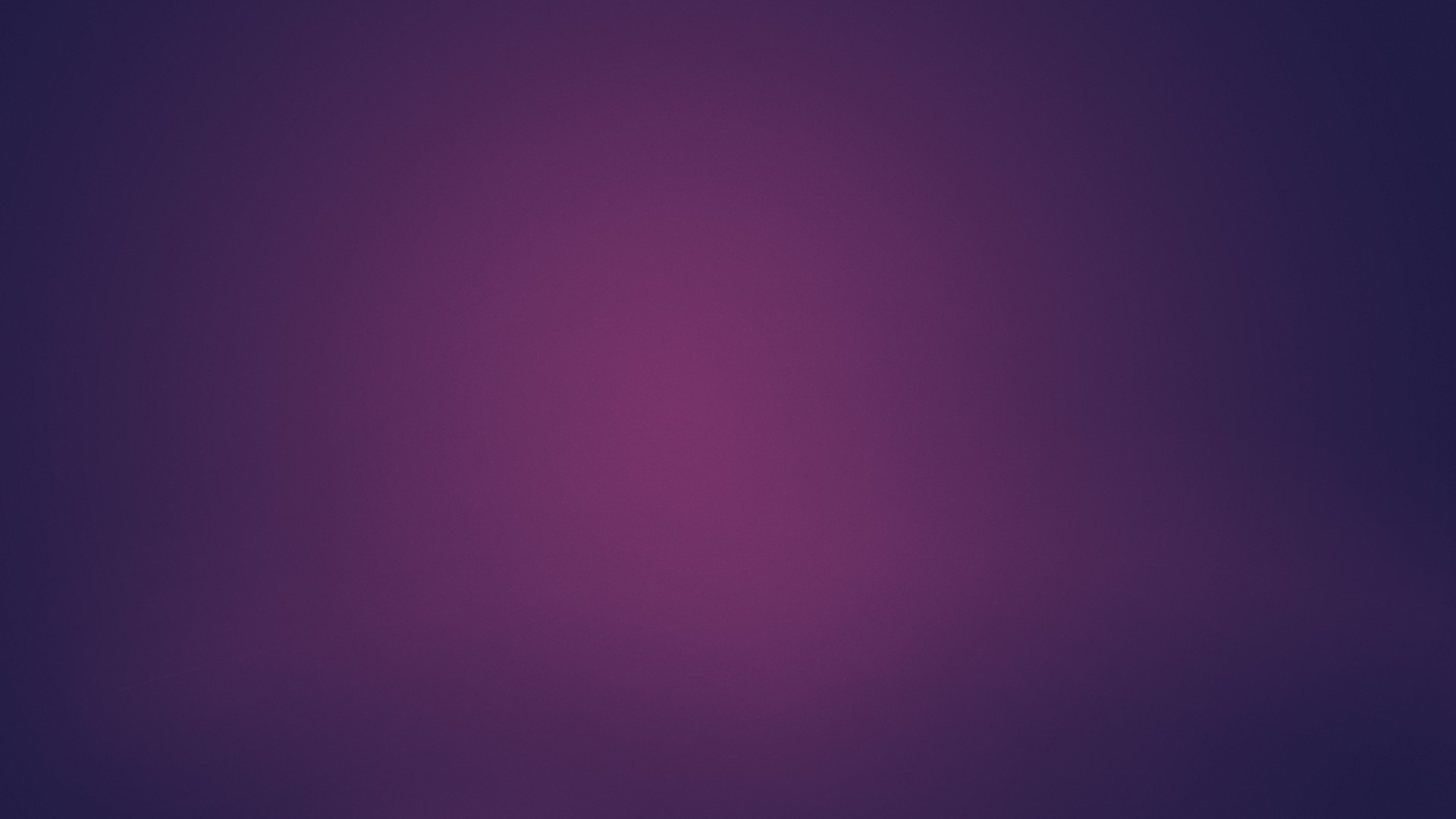
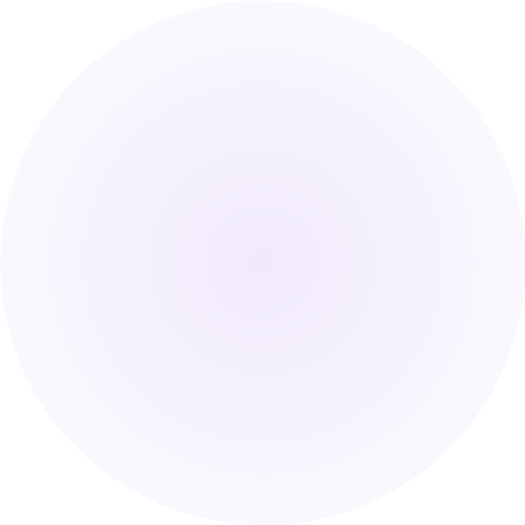
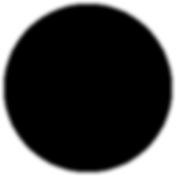
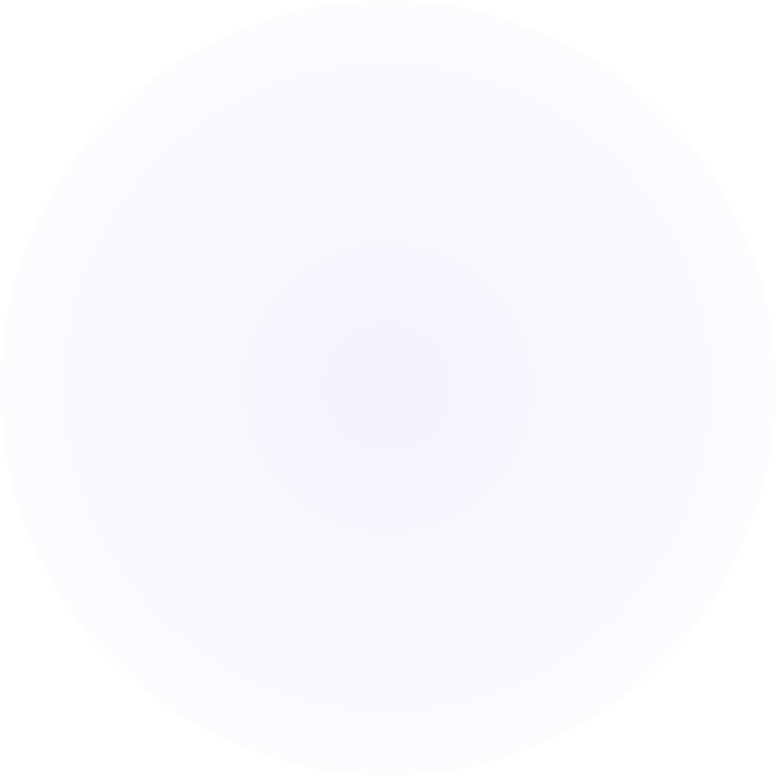
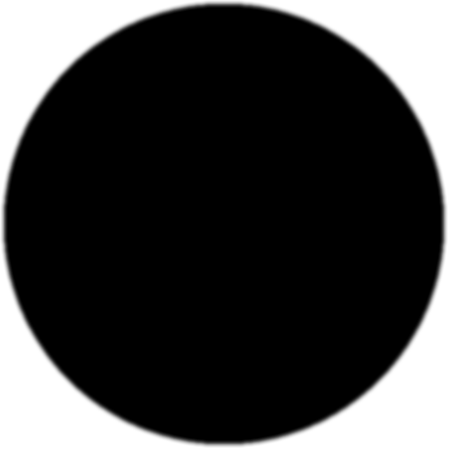
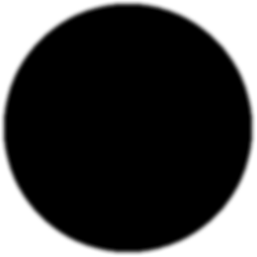
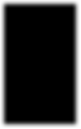
mushroom classification. Explain how the model performed on the testing set

score, providing an interpretation of their significance in the context of

regression model. Discuss metrics such as accuracy, precision, recall, and F1

Present the evaluation metrics used to assess the performance of the logistic

5. Model Evaluation:



application.

Streamlit's features and guide you through the process of building your own web

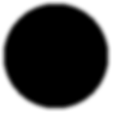
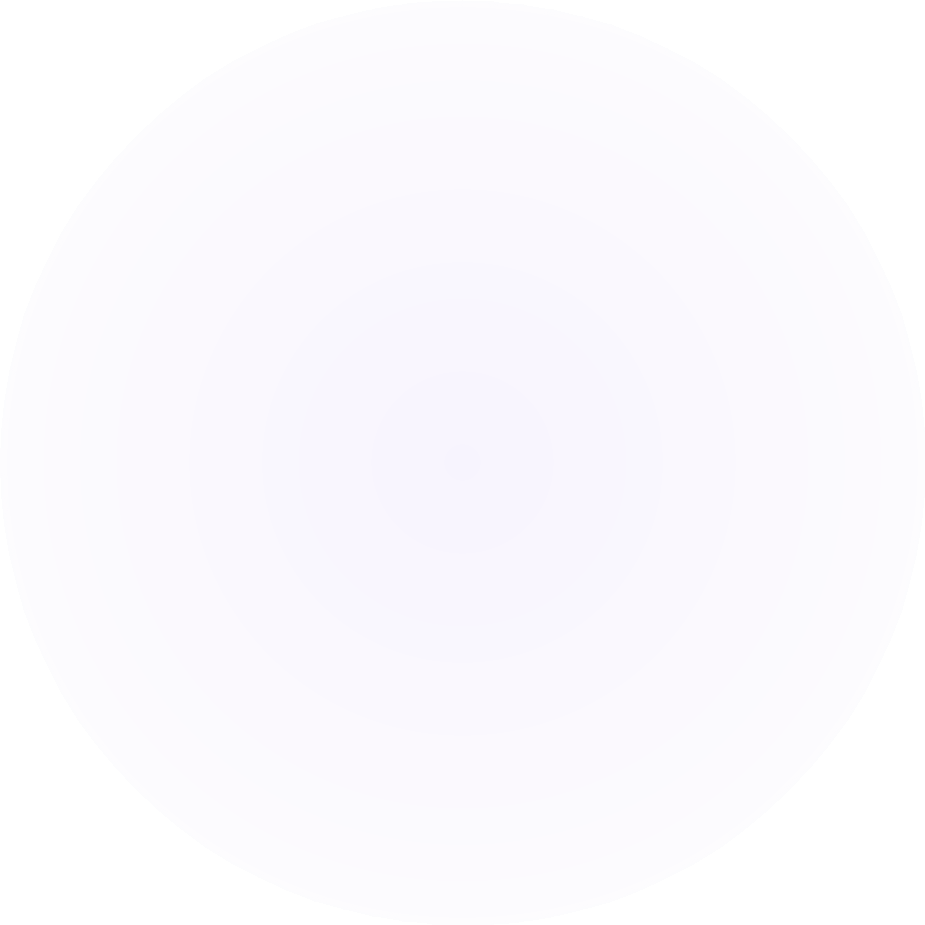
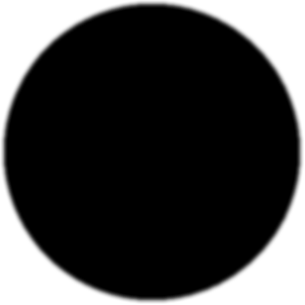
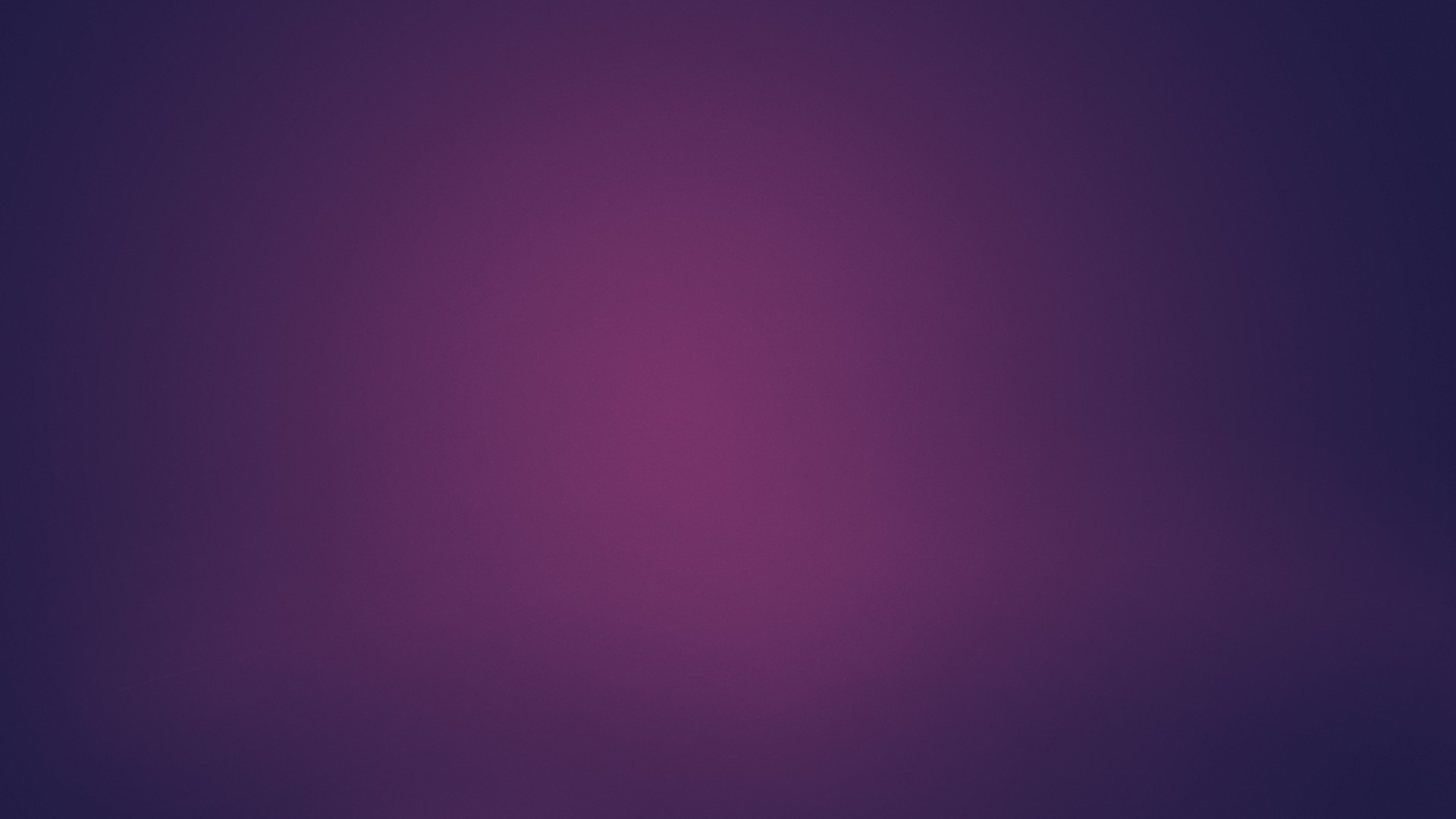
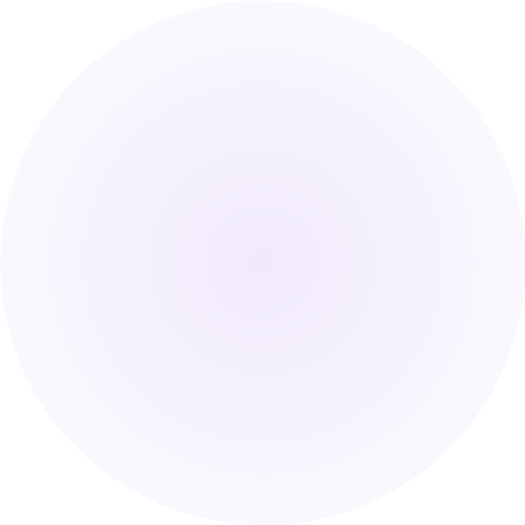
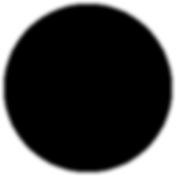
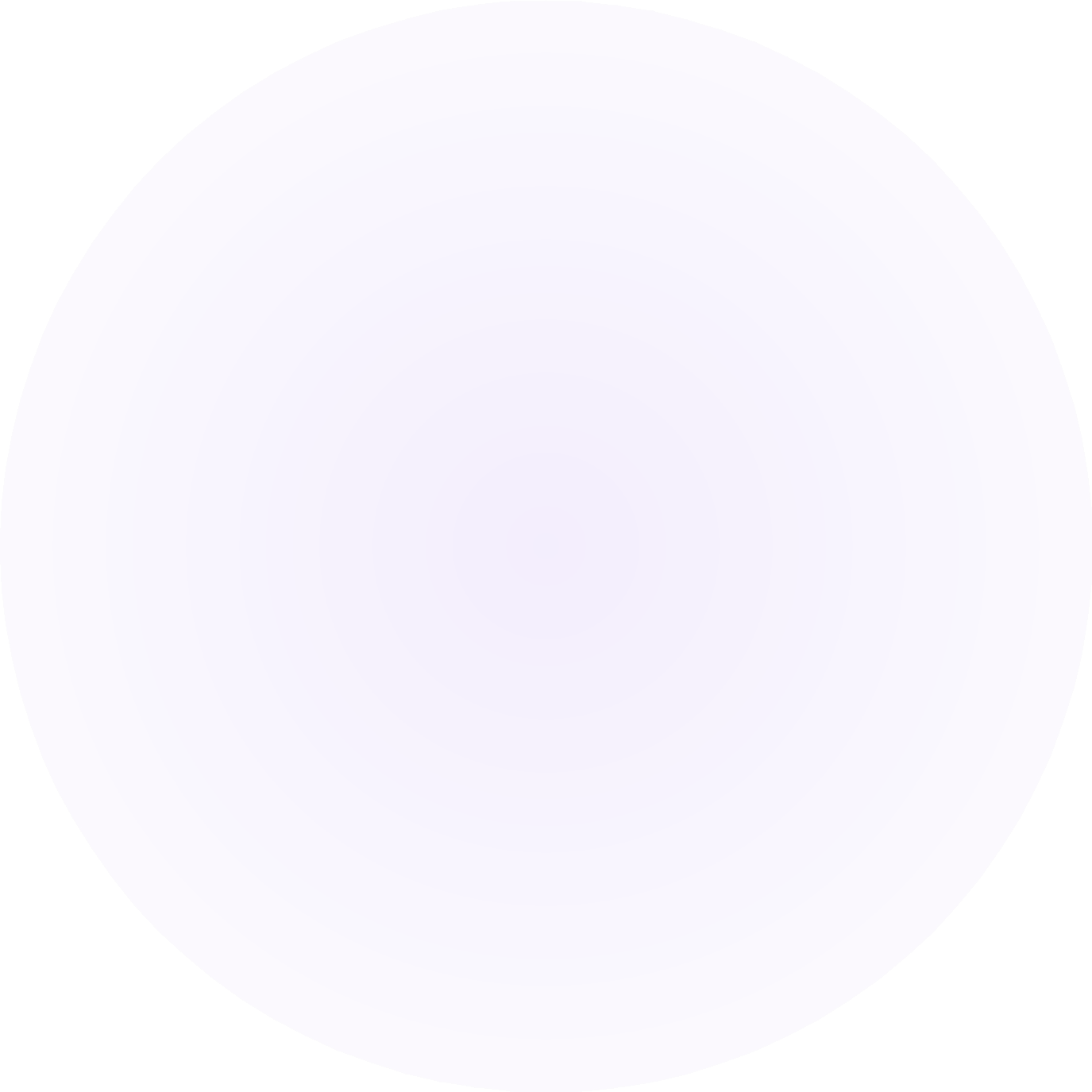
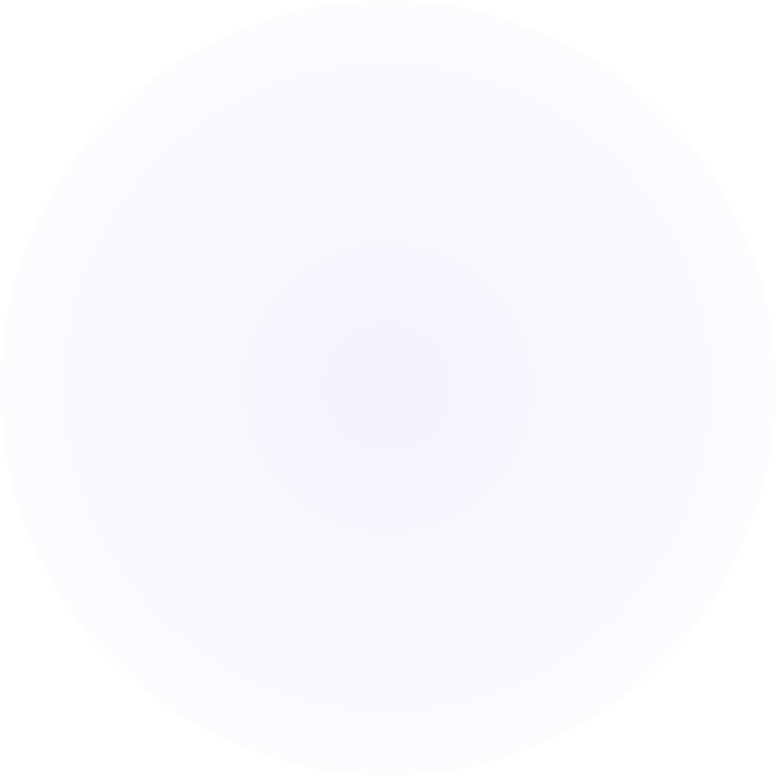
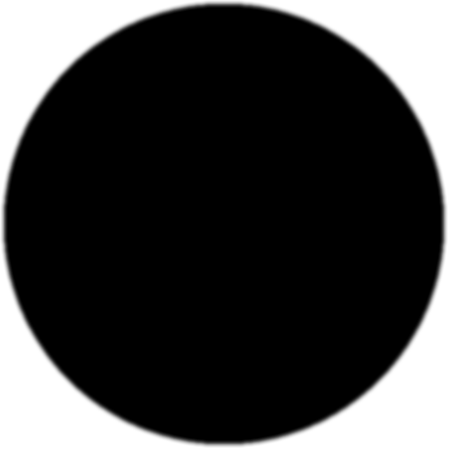
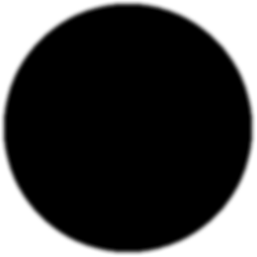
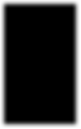
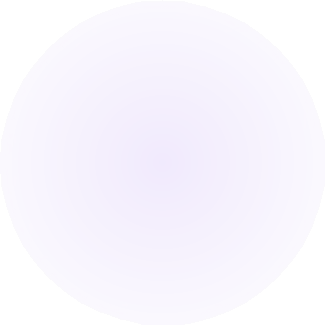
machine learning models. This documentation will provide an overview of

create and deploy web apps that showcase your data analysis, visualizations, and

applications for data science and machine learning. With Streamlit, you can quickly

Streamlit is a popular open-source Python library used for building interactive web

Streamlit App



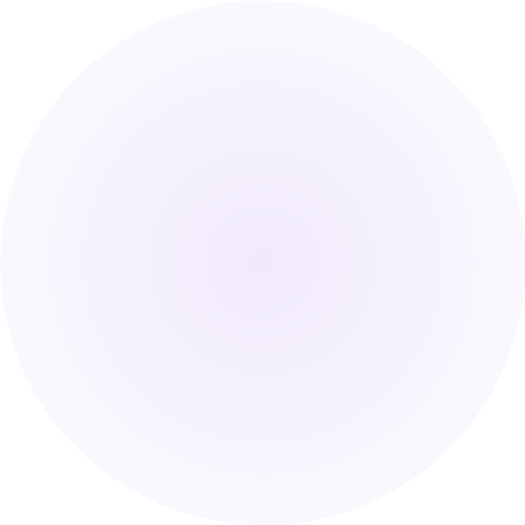
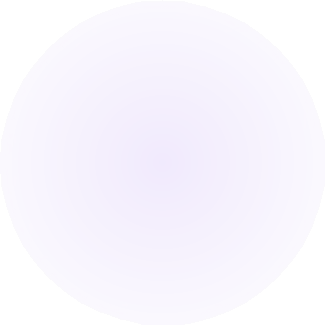
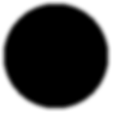
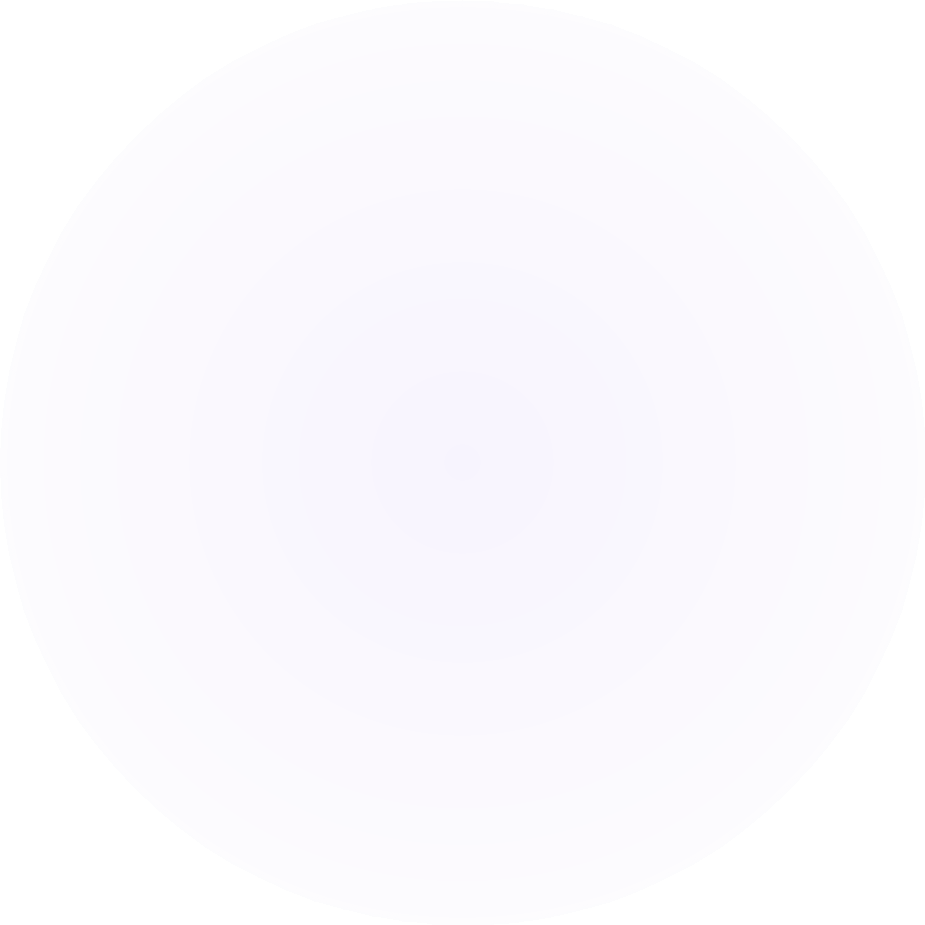
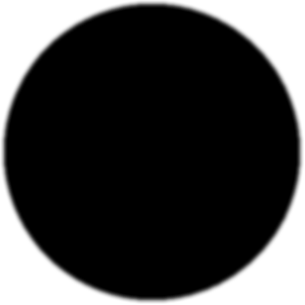
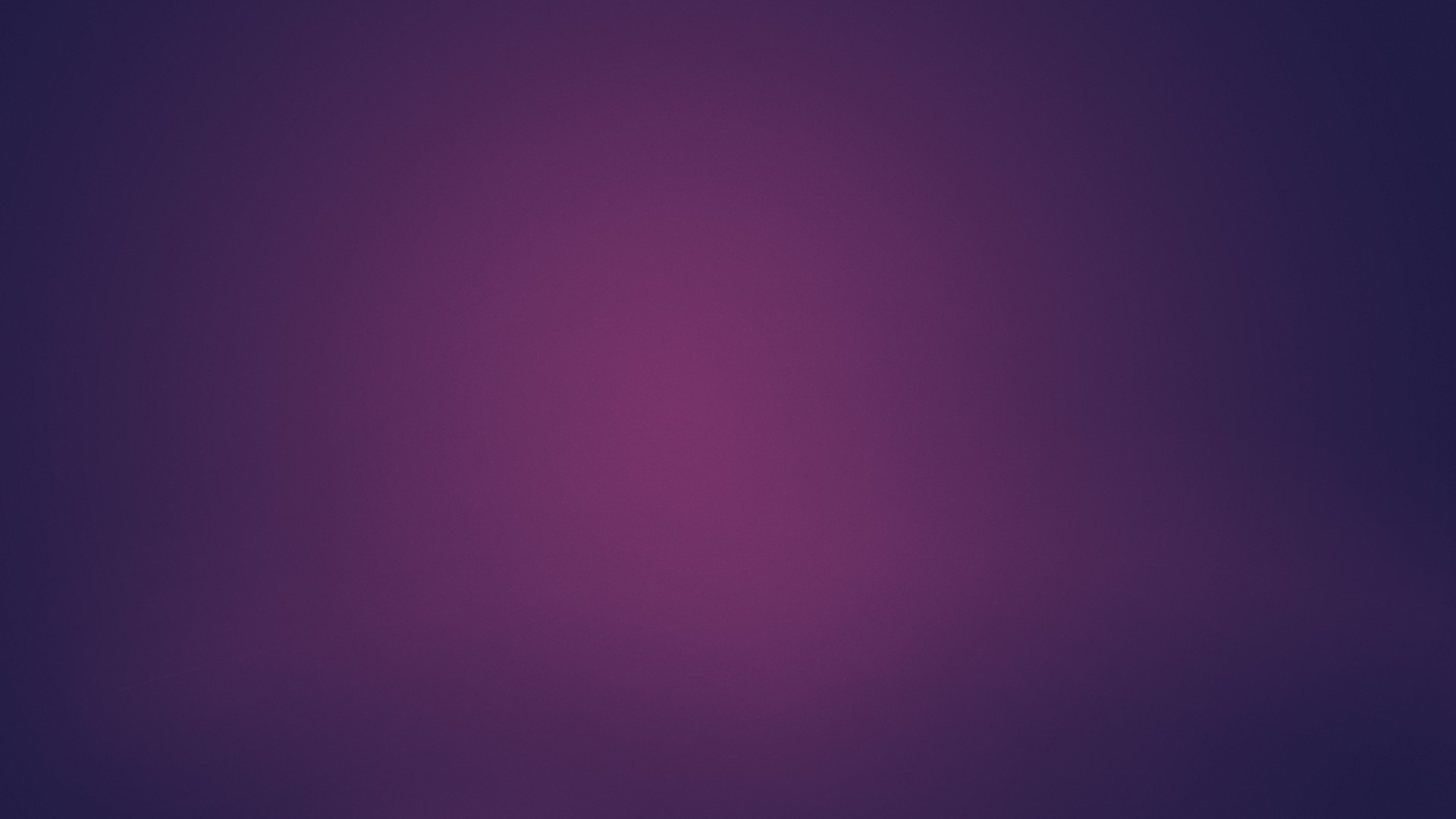
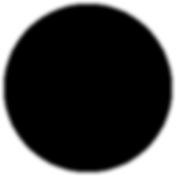
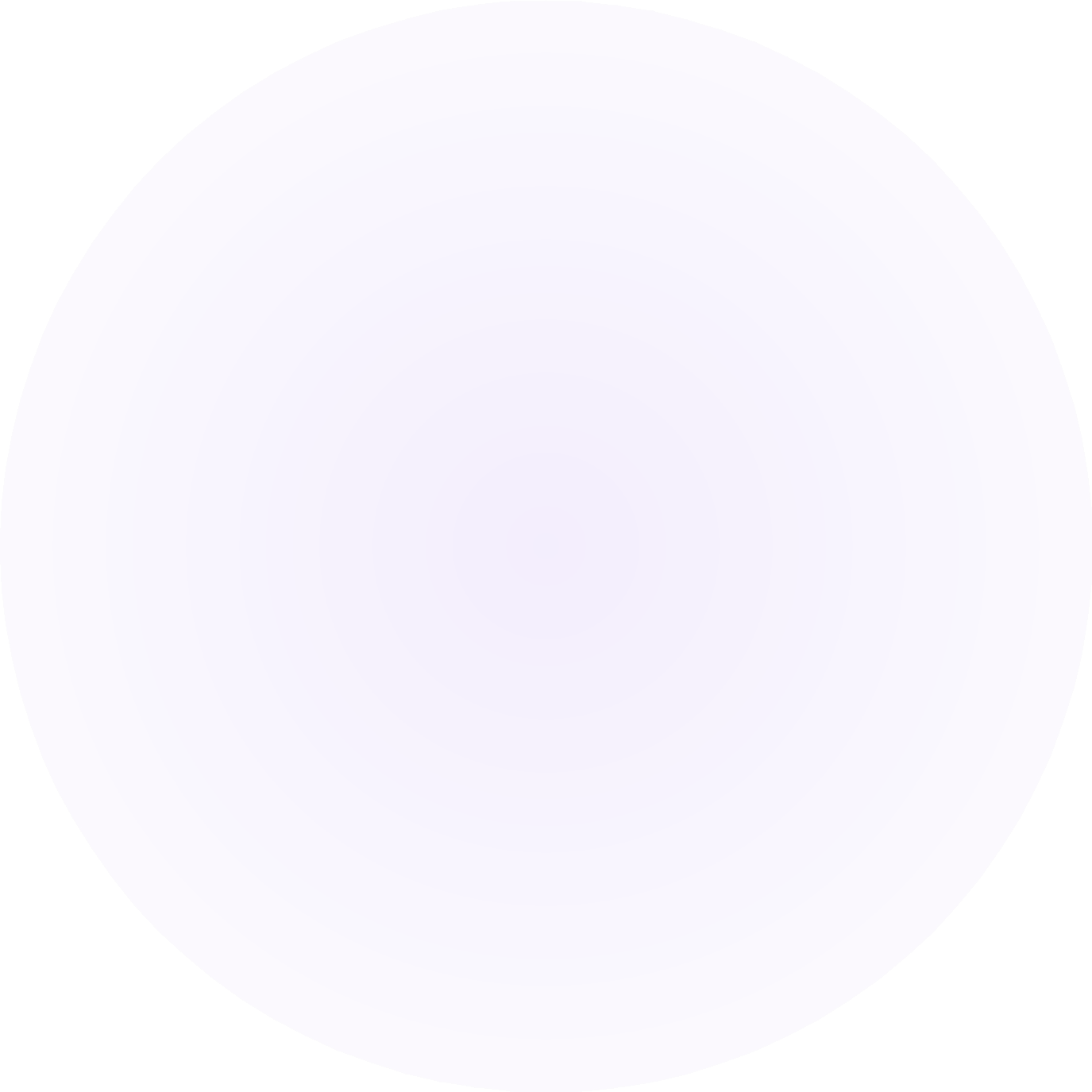
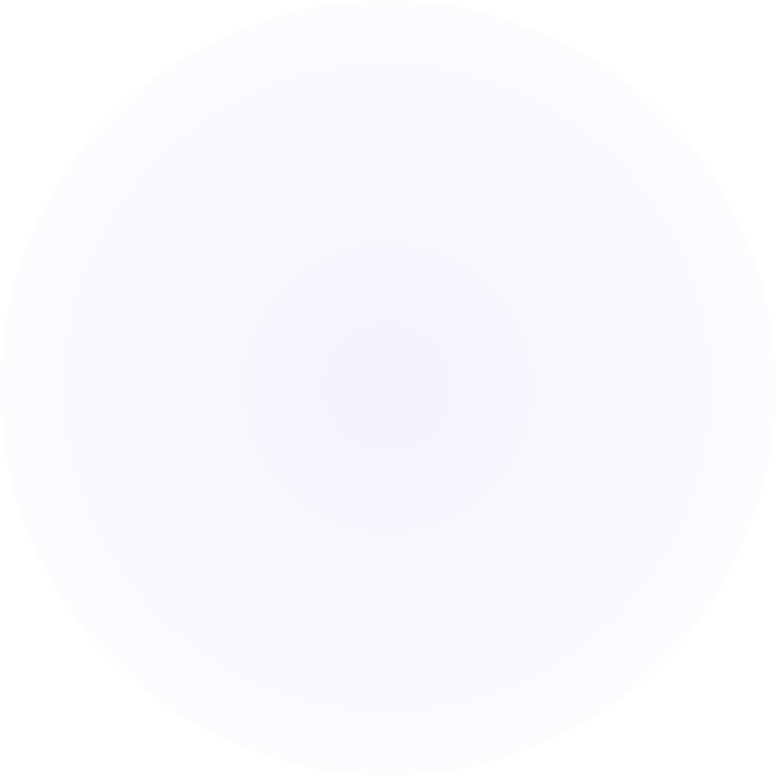
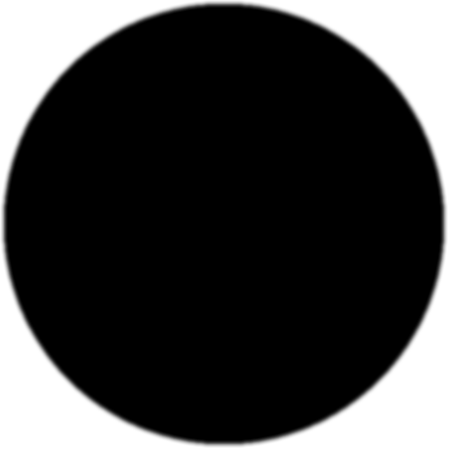
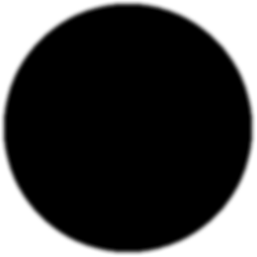
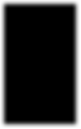
impact on safety and identification of mushrooms.

the importance of the model for decision-making in mycology and its potential

logistic regression model in accurately classifying mushroom edibility. Highlight

Summarize the key findings of the report, emphasizing the effectiveness of the

8. Conclusion:



3.https://streamlit.io/

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numpy-mnist-handwriting-recognition-matplotlib-a6b31e2b166a

2.https://towardsdatascience.com/logistic-regression-using-python-sklearn-

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**1.**

9. References: