

# Student Stress Factors: A Comprehensive Analysis

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# Dataset

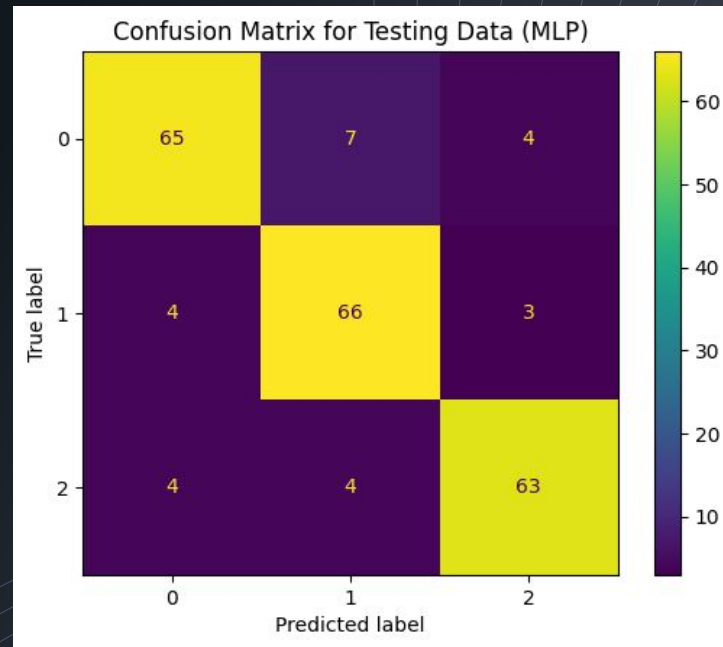
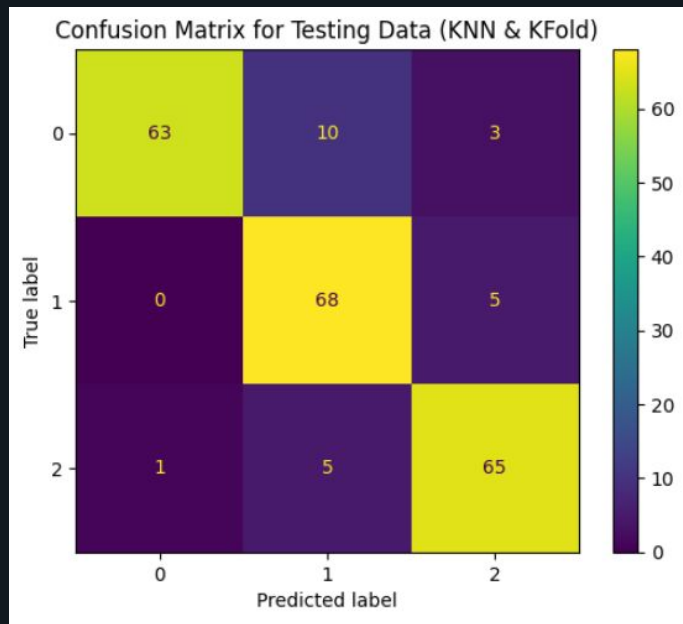
- Dataset was sourced from Kaggle
  - “Student Stress Factors: A Comprehensive Analysis”
- 1,100 students, ages 15-24 (high school - college)
  - Dharan, Nepal
- 5 Major Factors
  - Psychological
  - Physiological
  - Social
  - Environmental
  - Academic
- Objectives
  1. *Can predict the stress level of a new student based on the similarity of their stress factors to those of known students?*
  2. *Which factors contribute most significantly to predicting stress levels in students?*
  3. *Are there any identifiable patterns between specific factors and overall stress experienced?*

	min	max
anxiety_level	0.0	21.0
self_esteem	0.0	30.0
mental_health_history	0.0	1.0
depression	0.0	27.0
headache	0.0	5.0
blood_pressure	1.0	3.0
sleep_quality	0.0	5.0
breathing_problem	0.0	5.0
noise_level	0.0	5.0
living_conditions	0.0	5.0
safety	0.0	5.0
basic_needs	0.0	5.0
academic_performance	0.0	5.0
study_load	0.0	5.0
teacher_student_relationship	0.0	5.0
future_career_concerns	0.0	5.0
social_support	0.0	3.0
peer_pressure	0.0	5.0
extracurricular_activities	0.0	5.0
bullying	0.0	5.0
stress_level	0.0	2.0

# Methods

Model Name	Hyperparameters	Testing Accuracy
KNN	K-fold cross validation (n_neighbors)	89%
MLP	K-fold cross validation (hidden_layer_sizes, learning_rate_init)	88%
Decision Tree	max-depth	90%
Random Forest	Number of trees (n_estimators)	89%

# Results



# Results

