```python
import numpy as np
import matplotlib.pyplot as plt
a, b, c = 2, -4, 1
x = np.linspace(-10, 10, 100)
y = a * x**2 + b * x + c
plt.figure(figsize=(8, 6))
plt.plot(x, y, label=f"{a}x² + {b}x + {c}", color="red")
plt.title("Fake News Detector Model (Quadratic Representation)")
plt.xlabel("x (Virality or Reach)")
plt.ylabel("y (Fake News Score)")
plt.axhline(0, color="black", linewidth=0.8, linestyle="--")
plt.axvline(0, color="black", linewidth=0.8, linestyle="--")
plt.legend()
plt.grid()
plt.show()
```
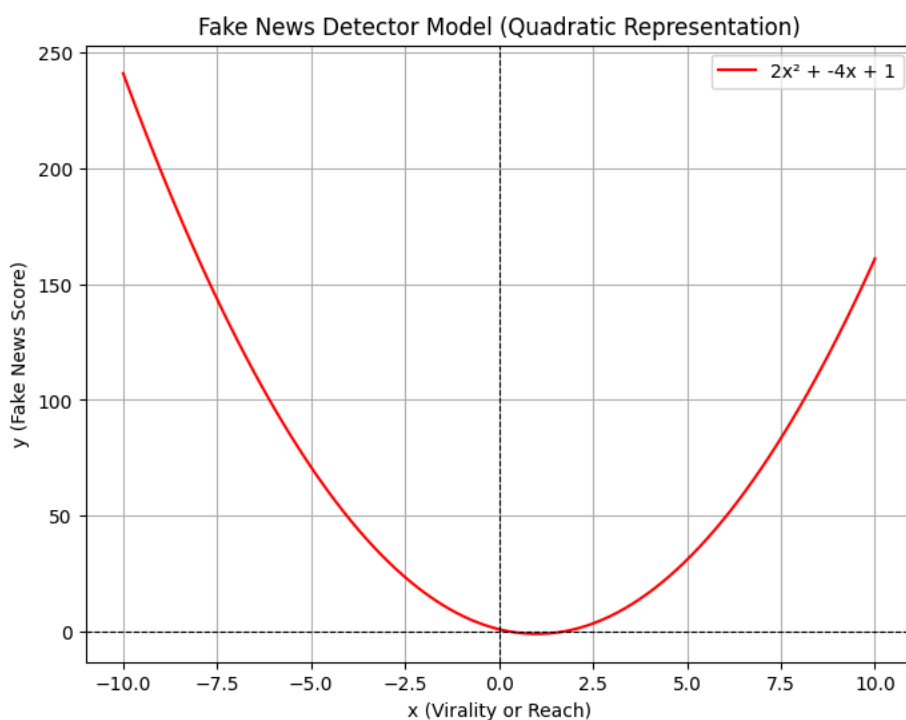

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