AML Question Bank

- Basic Machine Learning – Types, challenges, applications,
- Supervised, unsupervised
- Linear Regression, Logistic Regression, formulae, example solve.
- Explain following, significance, diagram, formulae
    - NN - all layers, formulae, explanation
    - RNN – all layers, formulae, explanation
    - CNN – diagram
    - LSTM Operations and Gates – formulae, diagram
- Activation Functions and loss functions – Explain and formula
- Attention Mechanism in RNNs – diagram, compare with CNN
- Fairness in Cybersecurity- advantages, disadvantages, challenges
- Explainable AI in Cybersecurity
- Ethical Issues in Cybersecurity ML
- Transparency in Cybersecurity Models
- Externalities in Cybersecurity ML
- Privacy
- Implementation of Transparency in Cybersecurity ML
- Explain the applications in details
    - Anomaly Detection in Traffic
    - Spam Filtering in Security
    - Phishing Email Detection Model
- Derivations
    - Given a activation function (sigmoid, tanh), Derive the expression
    - Given a activation cross entropy, Derive the expression
- Given a input, weight, bias, target
    - Calculate any cost functions (Sigmoid, Relu ....)
    - Compute loss functions (MSE)