

Format: Submit a single Jupyter notebook file (.ipynb). This file should include all code, documentation, descriptions, inputs, and outputs.

Content: Your submission must be an individual effort. Please note that any significant similarity with another student's work will result in both parties receiving a score of zero.

Tools: You are required to utilize `pandas`, `PyTorch` and `seaborn` libraries in your project and cover aspects like data loading, designing hidden layers, activation functions, stochastic gradient descent, and implementing forward propagation from scratch.

Project Choices: You have the option to choose **one** of the following three projects for your project 1:

1. Urban Air Quality Forecasting

- Dataset: [Air Quality Dataset]
(<https://archive.ics.uci.edu/dataset/360/air+quality>)
- Focus: Predict urban air quality using time-series data.

2. Android App Security Classifier

- Dataset: [Android Permissions Dataset]
(<https://archive.ics.uci.edu/dataset/722/naticusdroid+android+permissions+dataset>)
- Focus: Classify Android apps as benign or malicious based on permissions.

3. Credit Card Fraud Detection

- Dataset: [Credit Card Fraud Dataset]
(<https://www.kaggle.com/datasets/teamincrimbo/credit-card-fraud/data>)
- Focus: Detect fraudulent credit card transactions.

Please ensure your project is well-documented and clearly demonstrates your understanding of the subject matter.