## **Homework Assignment: Reflection and Peer Evaluation**

Objective: To critically reflect on your contributions and learning, and to provide constructive feedback to a peer.

Part 1: Individual Reflection (To be submitted for peer review)

Prepare a concise written summary (1 page) of your work this week within your assigned role and domain. This summary should highlight:

* Specific instances where you encountered challenges and how you addressed them.
* Moments where you experienced significant learning or developed new skills.
* A specific accomplishment or contribution you are particularly proud of.

Part 2: Peer Evaluation (To be completed in pairs)

You will be paired with another student to review their written summary. Using the rubric below, provide a score for their overall effort and quality as demonstrated in their submission. Your feedback should be thoughtful and justify your assigned score.

Peer Evaluation Rubric:

| Score | Description |
| --- | --- |
| -1 | The submission demonstrates insufficient effort or lacks in quality. |
| 0 | The submission meets the expected level of effort and quality. |
| +1 | The submission demonstrates exceptional effort and high quality. |

Grading Guidelines for Peer Evaluation:

* As a grader, ensure that you assign at least one score of "-1" and aim to assign at least one score of "+1" across the various aspects of your peer's submission (effort and quality). This encourages nuanced evaluation.
* Provide specific and constructive feedback to your partner explaining the rationale behind each score.

Part 3: Group Discussion

During the session, we will reconvene as a large group. Each student will be asked to share one specific experience from their week where they:

* Experienced significant learning within their assigned domain
* Achieved a meaningful outcome they are proud of.
* Share crucial prompts that delivered meaningful outcomes.

This assignment encourages both individual reflection on your learning and contributions, as well as collaborative feedback to enhance understanding and performance.

Grader: Gradee:

| Domain | Role | Leader/ Follower | Score (-1,0,1) | Notes |
| --- | --- | --- | --- | --- |
| **Project Management** | Product Manager (PM): defines objectives, timelines, priorities |  |  |  |
|  | Stakeholder Liaison: connects business/subject matter experts with technical teams |  |  |  |
| **Data Infrastructure** | Data Engineer: builds and maintains pipelines, ETL processes |  |  |  |
| **Data Acquisition and Governance** | Data Acquisition Specialist: sources external datasets, APIs, web scraping |  |  |  |
|  | Data Steward / Governance Officer: ensures data quality, compliance (GDPR, HIPAA) |  |  |  |
| **Data Science Core** | Data Scientist (Modeler): builds models, experiments, hypothesis testing |  |  |  |
|  | Applied Statistician: advanced statistical testing, uncertainty quantification |  |  |  |
|  | Machine Learning Engineer: productionizes models, feature engineering, model pipelines |  |  |  |
| **Runtime / Performance Analysis** | Performance Engineer: monitors computational cost, runtime optimization |  |  |  |
|  | Cost Analyst: tracks cloud usage, cost per prediction, server scaling economics |  |  |  |
| **GUI / Front-End** | UI/UX Designer: user interface, experience research, prototyping |  |  |  |
|  | Front-End Engineer: builds dashboard interfaces (Gradio, Streamlit, Anthropic stuff) |  |  |  |
|  | Visualization Expert: designs dashboards, data storytelling, custom visualizations |  |  |  |
| **Cybersecurity and Risk** | Security Engineer: audits pipelines and deployments for vulnerabilities |  |  |  |
|  | Compliance Officer: ensures legal compliance, audit trails, traceability |  |  |  |
|  | Risk Analyst: assesses model risks (e.g., bias, fairness, stability) |  |  |  |
| **Monitoring and Operations** | MLOps Engineer: handles model drift, performance monitoring, retraining |  |  |  |
| **Specialized Roles Depending on the Project** | Ethics and Bias Auditor: fairness, transparency, DEI concerns in models |  |  |  |
|  | Explainability Engineer: builds tools like SHAP, LIME for model interpretability |  |  |  |
|  | Synthetic Data Generator: creates synthetic data for rare events, privacy preservation |  |  |  |
|  | Annotation Manager: coordinates human labeling if supervised data is needed |  |  |  |