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| **Risk Description** | **Type** | **Probability** | **Impact** | **Mitigation Strategy** |
| Limited Access to Cloud Services | Technical | High | Restricted access to cloud platforms may delay data processing and model training. | Ensure team members have verified credentials and establish contingency plans using alternative cloud providers. |
| Scope Creep | Project | Moderate | Frequent changes or additions to project requirements may delay timelines and exhaust resources. | Define clear project objectives early on and implement a strict change control process. |
| Version Control Conflicts | Technical, People | Moderate | Simultaneous updates to the same codebase can result in merge conflicts and lost work. | Use version control systems like Git with structured branching strategies and regular commit protocols. |
| Lack of Domain Knowledge | People | High | Inadequate understanding of the subject area may lead to irrelevant or ineffective solutions. | Assign research tasks, schedule expert consultations, and encourage cross-functional knowledge sharing. |
| Dependency on External APIs | Technical | Moderate | Downtime or changes to third-party APIs could disrupt functionality. | Cache critical data, monitor API status, and prepare fallback solutions for core features. |
| Inconsistent Data Labelling | Project | High | Poorly labelled data may compromise model accuracy and training results. | Develop labelling guidelines, perform regular quality checks, and use automated validation tools. |
| Insufficient Testing Before Deployment | Technical | Moderate | Lack of thorough testing may result in unexpected failures during live operation. | Create a robust testing framework including unit, integration, and user acceptance testing. |
| Ineffective Communication Within Team | People | Low | Miscommunication can lead to duplicated efforts, missed deadlines, and lower morale. | Hold regular progress meetings, use collaborative platforms effectively, and encourage open feedback. |