***PART II – Technology Requirements:***

1. ***T*echnological Requirements:**

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| ***Technology*** | ***Name*** | ***Pros*** | ***cons*** |
| Database | MongoDB | Performance Levels : Performance is much higher and quicker than another relational database.  High Speed and Higher Availability  Simplicity : MongoDB offers a simple query syntax that is much easier to grasp than SQL.  Flexibility : MongoDB’s schema is not predefined.  Scalability : MongoDB uses “sharding”, which expands the storage capacity.  Technical Support: MongoDB offers technical support for the various services that it provides. | Transactions: Transactions refer to the process of reviewing and eliminating unwanted data. MongoDB uses multi-document ACID transactions.  Indexing: if the indexing is implemented incorrectly or has any discrepancies, MongoDB will perform at a very low speed.  Limited Data Size : MongoDB allows a limited size of only 16 MB for a document.  High Memory Usage: MongoDB requires a high amount of storage due to the lack of joins functionalities which lead to the duplication of data. |
| Programming Language | Python | This programming language is easy to learn, understand and code as it does not include too many technicalities.  It comes with an extensive set of libraries  Python is extremely flexible and can be extended to other languages.  Embeddable : You can put your Python code in your source code of a different language, like C++.  Machine learning : Python is the ultimate and great choice when your business needs web projects to be integrated with Machine Learning algorithms. | It is slow in comparison to other non-compiled languages as it requires a lot of computational power.  Security : Python is not 100 percent secure. So, in this case, you need to take the necessary steps to ensure the code’s security.  Python language comes with high memory usage and this high memory consumption needs to be tackled carefully during the project. |
| Framework/IDE | PyCharm | it's easy to use  it's easy to switch between versions of Python, which is something useful in this language  The syntax highlights help us when writing code, making our time more efficient | It can be a little slow to startup  Debugging takes time  Expensive compared to alternatives. |
| Software for tracking/sharing changes | Git | They are free and open source we can easily download the source code and performs changes to it.  The push/pull operations are faster with a simple They save time and developers can fetch and create pull requests without switching.  They have good and faster network performance | GIT requires technical excellence, and it is slower on windows.  They have poor GUI and usability. And they take a lot of resources which slows down the performance.  It lacks window support and doesn’t track empty folders. |

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| Skills Required | Responsible Team Member | Existing Skill Level  (1 - 10) | Learning Plan  (Resource) | Starting Date | End date |
| Basic python skill | All | 7 | Net Ninja -Python 3 tutorials | 1 Dec 2021 | 20 Dec 2021 |
| AI fundamentals | All | 4 | Artificial Intelligence foundation -Machin | 1 Dec 2021 | 20 Dec 2021 |
| Database skill | Pruthvi | 6 | Learning Monge DB | 20 Dec 2021 | 1 Jan 2022 |
| Deep learning skill | Namya | 5 | Deep Learning: Getting Started | 20 Dec 2021 | 29 Dec 2021 |
| Problem solving skills in AI | Vraj | 4 | AI tools and concepts | 20 Dec 2021 | 15 Jan 2022 |
| **Spark for Machine Learning & AI** | Sahay | 4 | **Spark for Machine Learning & AI** | 20 Dec 2021 | 29 Dec 2021 |
| Data and software security skill | Pruthvi | 5 | Data and software security | 1 Jan 2022 | 15 Jan 2022 |
| Marketing skill | Saumya | 4 | Integrated Marketing Communication Strategies | 20 Dec 2021 | 15 Jan 2022 |

**Learning Plan**

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| Artificial Intelligence foundation -Machin | https://www.linkedin.com/learning-login/share?account=2155426&forceAccount=false&redirect=https%3A%2F%2Fwww.linkedin.com%2Flearning%2Fartificial-intelligence-foundations-machine-learning%3Ftrk%3Dshare\_ent\_url%26shareId%3DL4R0AqxnT1i0hU89gHf6sw%253D%253D |
| Net Ninja -Python 3 tutorials | https://youtube.com/playlist?list=PL4cUxeGkcC9idu6GZ8EU\_5B6WpKTdYZbK |
| Learning Monge DB | https://www.linkedin.com/learning-login/share?account=2155426&forceAccount=false&redirect=https%3A%2F%2Fwww.linkedin.com%2Flearning%2Flearning-mongodb%3Ftrk%3Dshare\_ent\_url%26shareId%3D6CAwilssTgC2NafA95%252FBCQ%253D%253D |
| Deep Learning: Getting Started | https://www.linkedin.com/learning-login/share?account=2155426&forceAccount=false&redirect=https%3A%2F%2Fwww.linkedin.com%2Flearning%2Fdeep-learning-getting-started%3Ftrk%3Dshare\_ent\_url%26shareId%3DODcFLuxzQVeGg0ePwr9Wuw%253D%253D |
| AI tools and concepts | https://www.linkedin.com/learning-login/share?account=2155426&forceAccount=false&redirect=https%3A%2F%2Fwww.linkedin.com%2Flearning%2Fartificial-intelligence-tools-and-concepts%3Ftrk%3Dshare\_ent\_url%26shareId%3D1d6RrWYzTOWwxnnoLoU1Ow%253D%253D |
| **Spark for Machine Learning & AI** | https://www.linkedin.com/learning-login/share?account=2155426&forceAccount=false&redirect=https%3A%2F%2Fwww.linkedin.com%2Flearning%2Fspark-for-machine-learning-ai%3Ftrk%3Dshare\_ent\_url%26shareId%3D%252F21yTnAjSpu2Ef%252BRE9EWCg%253D%253D |
| Data and software security | https://www.linkedin.com/learning-login/share?account=2155426&forceAccount=false&redirect=https%3A%2F%2Fwww.linkedin.com%2Flearning%2Fcomptia-cysa-plus-cs0-002-cert-prep-4-software-and-systems-security%3Ftrk%3Dshare\_ent\_url%26shareId%3DMq%252FYS8LXRBawmuPizmN54A%253D%253D |
| Integrated Marketing Communication Strategies | https://www.linkedin.com/learning-login/share?account=2155426&forceAccount=false&redirect=https%3A%2F%2Fwww.linkedin.com%2Flearning%2Fintegrated-marketing-communication-strategies%3Ftrk%3Dshare\_ent\_url%26shareId%3DtPdoYk8lRGSnjVR1wmYPPg%253D%253D |