TECHNOLOGY CAREER GUIDANCE

Introduction: Preparing for a Successful Career in Technology

The main purpose of this document is to create awareness among you about the importance of preparing early for life after graduation. The goal is to ensure that by the time you complete your university education, you are not only academically qualified but also practically proficient. This proficiency should empower you to confidently enter the job market or even start your own companies or technology-based businesses.

The technology world offers a wide range of career opportunities. You should be aware of these careers early so they can intentionally build relevant skills alongside your formal education. Some of the key technology careers include UI/UX Designer, Prompt Engineer, Product Designer, Data Engineer, Data Analyst, Machine Learning Engineer, Data Scientist, AI Engineer, Software Engineer, and Mobile Application Developer among others. *Feel free to research more about the careers and the tools, you can decide to choose what you prefer best.*

Technology Careers and Recommended Tools

1. **UI/UX Designer:** Figma, Adobe XD, Sketch, InVision, Canva, usability testing tools. *For example, I chose Figma for this.*
2. **Prompt Engineer:** ChatGPT, Claude, Gemini, understanding LLMs, prompt design frameworks. *For example, I chose All for this.*
3. **Product Designer:** Figma, FigJam, Miro, Jira, Productboard, user research tools. *For example, I chose Figma for this.*
4. **Data Engineer:** Python, SQL, Apache Spark, Airflow, Hadoop, AWS/GCP/Azure. *For example, I chose Python, SQL, Apache Spark, AWS for this.*
5. **Data Analyst:** Excel, SQL, Python, Power BI, Tableau, Google Sheets. *For example, I chose Excel, SQL, Python, Tableau for this.*
6. **Machine Learning Engineer:** Python, Scikit-learn, TensorFlow, PyTorch, ML pipelines, cloud ML services. *For example, I chose Python, Scikit-learn, still thinking whether to choose TensorFlow / PyTorch, ML pipelines is a must and cloud ML services for this.*

7. **Data Scientist:** Python, R, SQL, Jupyter Notebook, Pandas, NumPy, visualization libraries (matplotlib and seaborn). *For example, I chose Python, SQL, Jupyter Notebook(but you can also use VS code), pandas, numpy and visualization libraries is a must for this.*
8. **AI Engineer:** Python, Machine Learning frameworks, APIs, cloud AI services, model deployment tools. *For example, I will choose everything for this.*
9. **Software Engineer:** Python, Java, JavaScript, Git, APIs, system design concepts. *For example, I have no interest in becoming one but I still chose Python, Java, Git (this is a must), still studying APIs.*
10. **Mobile Application Developer:** Flutter, React Native, Kotlin, Swift, Firebase, Android Studio. *For example, I chose flutter, Firebase for this.*

Academic Excellence Still Matters

This guidance does not mean that you should neglect your academic studies. Excelling in university education is still very important. Achieving a strong GPA, such as a First Class, demonstrates discipline, consistency, and the ability to learn complex concepts. Academic excellence should go hand in hand with practical skill development.

The Importance of Self-Learning

One of the key factors for success in the technology field is adopting a self-taught mindset. Many practical skills required in technology are learned independently through personal effort. You are encouraged to use online resources such as online courses, YouTube tutorials, documentation, hackathons, bootcamps, and community events to continuously improve your skills beyond the classroom. *Furthermore, don't limit yourself on what you can study on your own.*

Using Generative AI Wisely

While generative AI tools such as ChatGPT, Claude, and others are powerful, it is important not to become overly dependent on them. You should first focus on understanding concepts and building skills independently. After learning, AI tools can then be used strategically to enhance productivity, generate ideas, debug code, or explore alternatives. The goal is to learn first, then utilize AI effectively and responsibly.

NB: This document will be updated from time to time. Happy Learning.

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