Professional Development assignment Name – Utkarsh Kumar

Id – 2022kucp1111

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[Utkarsh Kumar]

Statement of Purpose

Program: Master’s in Computer Science University: Stanford University

Artificial Intelligence and Machine Learning have always fascinated me, not only due to their transformative potential but also because of their ability to solve real-world problems

efficiently. The power of algorithms to make data-driven decisions and create intelligent systems has inspired me to pursue a career in this domain. With a strong foundation in

Machine Learning, I aim to deepen my expertise and contribute meaningfully to the field.

Currently, I am a third-year student at IIT Kota, pursuing a degree in Computer Science and Engineering. Throughout my academic journey, I have actively engaged in machine learning projects that have strengthened my technical skills and analytical thinking. One of my most significant projects is a Personalized Skill Assessment and Job Recommendation System.

This project utilizes TF-IDF and RandomForestClassifier to recommend the most suitable job roles based on a user's skills. Additionally, I have implemented skill gap analysis, where users can input their desired job role, and the system identifies missing skills, providing a

structured learning plan and career progression pathway. This project not only enhanced my knowledge of text processing, feature extraction, and classification techniques but also

exposed me to the challenges of real-world career-oriented AI applications.

Another notable project is the Car Price Predictor, where I leveraged linear regression and machine learning models to predict the price of used cars based on various parameters such as brand, mileage, year, and condition. This project allowed me to explore regression

techniques, data preprocessing, and feature engineering, enhancing my understanding of how predictive modelling can assist businesses in decision-making.

Beyond project development, I am deeply interested in advancing my knowledge in deep learning, neural networks, and NLP to explore more complex AI applications. I have

completed the Machine Learning A-Z course on Udemy, which has further solidified my concepts in ML algorithms and practical implementations.

My career aspiration is to work as an AI/ML Engineer, contributing to the development of

intelligent solutions in industries such as HRTech, finance, and automation. I am particularly interested in applying AI to build smarter, personalized systems that enhance user experiences and optimize business processes. To achieve this, I seek an advanced learning environment

where I can gain deeper insights, collaborate with experts, and work on cutting-edge research.

**Hiring Manager**

**Microsoft Corporation Bengaluru, Karnataka**

**UTKARSH KUMAR**

[**Utkarsh072003@gmail.com**](mailto:Utkarsh072003@gmail.com)

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**Subject: Application for AI/ML Engineer Position**

Dear Hiring Manager,

I am excited to apply for the AI/ML Engineer position at Microsoft. As a third-year Computer Science and Engineering student at IIT Kota, I have cultivated a deep passion for Artificial

Intelligence and Machine Learning and have actively worked on projects that demonstrate my ability to develop intelligent solutions. I am eager to contribute my skills to Microsoft's

innovative AI initiatives.

I have undertaken multiple projects that highlight my expertise in machine learning. One of my most significant projects is a Personalized Skill Assessment and Job Recommendation

System, which employs TF-IDF and RandomForestClassifier to match users with suitable job roles based on their skills. Additionally, the system performs skill gap analysis, providing

structured learning pathways for career advancement. Another notable project is a Car Price Predictor, where I utilized linear regression and feature engineering techniques to estimate used car prices. These experiences have strengthened my understanding of data

preprocessing, feature selection, and predictive modelling.

Beyond projects, I have completed the Machine Learning A-Z course on Udemy, which has further refined my knowledge of key ML algorithms and their practical implementations. I am particularly interested in deep learning, neural networks, and NLP, and I am eager to

explore these domains further through hands-on work at Microsoft.

Microsoft's commitment to AI-driven solutions and cutting-edge research aligns perfectly with my aspirations. The opportunity to work alongside experts in the field and contribute to groundbreaking AI advancements excites me. I am confident that my problem-solving skills, technical proficiency, and passion for AI make me a strong candidate for this role.

Thank you for your time and consideration. I look forward to the opportunity to discuss how my skills and experiences can contribute to Microsoft's AI and ML initiatives.

Sincerely,

**Utkarsh Kumar**