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12th April 2024

Dear Recruitment Team,

I am writing to express my interest in the Machine Learning Engineer KTP Associate position. My background is in research-oriented data science, with hands-on experience in machine learning and a proven track record in delivering data-driven commercial applications. I am excited to contribute to the efforts of Guildhawk Ltd with Sheffield Hallam University's resources to develop tools and architectures for semi-automated and scalable human-in-the-loop data labelling, context-aware machine translation, and more.

On the commercial side, I have worked as a Digital Graduate in Data Science, Analytics, and Enterprise at BT Group. I used large and complex datasets to identify EE customer broadband and mobile usage and implement seamless data manipulation and visualisation for cross-selling and upselling use cases. I have honed my data processing and predictive modelling skills using tools such as SQL, BigQuery, Python. I worked on EE Line Checker to identify customer broadband needs and convey the same to our marketing team for real-world usage. Moreover, my experience in project management includes documentation on Confluence and collaboration via agile methodologies like Git and JIRA with cross-functional teams to present technical details to senior stakeholders intuitively and without complexity. All this was done keeping in mind the strict deadlines for our deliverables. I was selected to give a presentation on Generative AI and Large Language Models for corporate use cases in multiple business units. More recently, I have been using Power Automate to restructure the ordering workflow for company wide applications.

On the research and implementation side, I completed my master's in data science from the University of Bristol with my dissertation on Empirical Analysis of Forecasting Techniques for Prices and Returns of Tradable Financial Assets. It involved statistical analysis of price fluctuations and time series forecasting using Python in the financial domain. The project allowed me to work independently and avail guidance if required from my supervisor. One specific unit was focused on statistical computing and empirical methods using R Programming, where we learned [core statistical concepts and their application to a real-world dataset](#). A couple of other units focused on large-scale data engineering using AWS and natural language processing using transformers - the architecture behind generative AI.

Previously, I co-authored a [peer-reviewed paper](#) on fake news detection on social media by gauging sentiment via NLP using deep learning architectures and data labelling. I developed strong research skills, which improved my experience in conducting literature reviews, performing comparative analysis, and presenting the findings to key stakeholders as a team. I have developed and deployed machine learning pipelines on web-based interfaces, demonstrating my ability to apply AI and predictive modelling techniques to real-world problems. The learnings from my past experiences and projects will directly carry over to this KTP role and integrate into the administrative workflow.

As a potential KTP Associate, I hope I get a chance to prove my willingness to work hard and deliver remarkable results. Thank you for considering my application.

Sincerely,
Shashwat Upadhyay