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## **Unilink : ML Based University Ticket Handling System**

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## ABSTRACT

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The traditional manual methods for managing incidents and service requests currently is a challenge within the Sri Lankan universities due to their outdated ticketing systems and email based support mechanisms. The existing systems lack automation and customization which is required to successfully manage large numbers and various types of service requests. These limitations often lead to misrouted, delayed, or unresolved service requests, that cause frustration in users and overall efficiency.

To address this issue, this paper employs the development of a machine learning based request management system tailored for academic services leveraging Natural Language Processing (NLP) techniques. The system integrates a classification model to identify and prioritize requests based on urgency and accountability, while sentiment analysis extracts contextual cues from request descriptions to improve prioritization. This approach automates request handling, reducing the response time significantly and minimizing manual involvement.

The model was evaluated using precision, recall and F1-Scores, to assess the effectiveness in classifying and prioritizing user requests. The systems result demonstrated a substantial improvement in request handling in comparison to traditional methods, highlighting the developed system's potential in enhancing request management in academic environments. However, the model's performance was less reliable for certain request types due to the lack of a standardized dataset, which will be a focus for future research. The results suggest that the model contributes to a more effective academic and administrative experience by providing a reliable, scalable solution that enhances operational flow and user satisfaction within Sri Lankan universities **Keywords:**

Priority Prediction, Department Prediction, Academic Information System, Sentiment Analysis, Machine Learning, Natural Language Processing Subject Descriptors:

**Information systems** → Information retrieval → Retrieval tasks and goals → Question answering

**Computing methodologies** → Machine learning → Machine learning approaches → Natural

**language processing Computing methodologies** → Machine learning → Sentiment Analysis

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