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Dynamic Graph Generation from Excel Using Machine Learning Algorithm Data Visualization Dashboard

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Abstract: *This paper presents a complete, reproducible pipeline for converting raw Excel spreadsheets into dynamic, publication-quality visual graphs using machine learning (ML) techniques and an interactive data visualization dashboard. We describe dataset ingestion, automatic schema detection, feature engineering, ML-based chart recommendation and parameterization, graph rendering, and an interactive web dashboard for exploration and export. The proposed system improves speed and accuracy of selecting appropriate graph types and layouts compared to manual selection and provides automated labeling, anomaly highlighting, and exportable vector graphics. We validate the approach on three real-world Excel datasets (finance, sensor time-series, and survey responses) and report quantitative and qualitative improvements in time-to-visualization and user satisfaction. (Keywords—Excel, data visualisation, chart recommendation, machine learning, dashboard, graph generation.)*

Keywords: Excel, chart recommendation, data visualization dashboard, machine learning, automated graphing, interactive visualisation

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