

Simplifying Income Verification through Machine Learning

Abstract

The manual review of income verification via payslips is a time-consuming and error-prone task, often leading to inconsistencies and subjective interpretations. Whilst being a key component of the mortgage lending journey, no significant progress has been made in this space for automation. This abstract highlights the technical innovations and potential consumer benefits of the innovative payslip categorisation process we developed, positioning it as a valuable tool in the financial industry.

The primary benefits of our ML categorisation algorithm and end-to-end process to consumers are significant. By automating the categorisation process, we achieved significant enhancements in the accuracy and consistency of income verification, minimising human error and expediting loan approval times. This improvement in efficiency can potentially impact a large segment of the employed population, offering a more streamlined and reliable application process.

This process is achieved through the deployment of a bespoke machine learning model that categorises income deductions and payments with high precision. The model assigns labels from a carefully curated taxonomy and provides confidence scores to indicate the certainty of each categorisation. This allows lenders to aggregate and summarise payslip data quickly, facilitating faster decision-making and reducing the likelihood of approving high-risk loans. Constant monitoring of the model and updates to the training set means that the accuracy remains optimal at all times. The model outputs were validated against both internal and external human underwriters to evaluate accuracy levels. This has positioned our model as a strong alternative for income verification with the potential of transforming the lending experience.

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