## Experian Case Study:

The exercise of calculating gross income of a list of people from the available information like net income, national insurance and income tax is a good start but there are some limitations to this approach.

The classic issue is of the deductions at hand, be it pensions, provident fund contributions and other repayments like student loans. In addition, if an employee has bought a car or a house loan from his employer which is spread over several years and is automatically deducted from salary, this too can greatly understate the gross income as we do not have a big deduction. Steps to mitigate this bias can include bank statements, tax records and payroll sheets. To cater for bonus payments or overtimes or a refund of dental expense incurred by the employee and which are paid separately from the salary these documents are quintessential. A big loophole to specifically address here is the payment of dental and optical insurance refunds. The NHS covers all health-related expenses but employers usually pay for their employee’s dental and optical insurances and upon using such services these payments are paid directly to an employee’s bank account while sending a copy of the same to an employer. Hence both bank statements and payroll records are important. In this regard machine learning algorithms play an important role as they classify payments.

On the contrary, self-employed workers can be identified in this exercise through looking at their regular interval payment schemes which can signify their sales, or freelance payments or business-related expenses. For instance, a person paying for Bloomberg, Refinitiv, S&P Cap IQ or other such subscriptions from his personal account would signify that he’s most likely a stock investor. Likewise, if someone’s bank account shows that he’s paying for his breakfast at a local coffee shop at High Street Glasgow, buys groceries from a high store in the same vicinity and usually dines in there, signals that he’s a resident of postcode G1 or nearby places in Glasgow City.