PROJECT DOCUMENTATION

# Problem Statement

Setting appropriate salaries is essential for employee satisfaction and the company’s stability. At Accenture, outdated manual HR and Finance processes can lead to inequity, bias, and budget strain. Adopting AI can enhance the accuracy and fairness of salary decisions by analyzing a range of factors, thereby supporting both equitable compensation and financial well-being.

HR departments rely on historical payroll data, market surveys, and managerial judgment, which can fail to account for all relevant factors such as education, experience, job role, and market trends.

This issue persists as Accenture and similar companies continue to use outdated, manual methods for determining salaries. Overpayment inflates payroll costs, while underpayment causes disengagement and reduces employee output, ultimately lowering ROI. Human subjectivity introduces bias and unfairness, and favoritism or gender influences some decisions.

This problem affects the company and its employees. Employees feel undervalued, job dissatisfaction increases, turnover rises, and stress and productivity decline.

# How will it benefit the community?

Our AI solution prevents payroll overruns, ensuring that employees receive their fair salaries. The company will now be able to give back to the community by donating money to charities and offering discounted services. Trust is built between the community and the company, meaning there will be a reduced number of unrests.

BUSINESS OBJECTIVES

# Business Success Criteria

* Develop an AI solution that assists companies in determining employee salaries.
* Develop an Ai solution that eliminates bias and unfair wages.

# Requirements

* Employee Data (Age, gender, Job title, Education Level, Years of experience, Salary)
* Technical requirements
  + Amazon Web Services cloud servers
  + Programming languages: Python
  + Cloud deployment environments
  + Internet access for people working on the project
* Human requirements
* Access to company experts who understand the HR and finance context.
* Train the staff to know and understand the software

# Constraints

* Resource budget
* Human resources and finance compliance
* POPIA compliance (in case employees do not give permission to use their data)
* Data

# Risks

* Gathering people's information, such as age, gender, education and years of experience and salary records, may lead to privacy breaches if not properly secured.
* The is a possibility that the system might replicate existing inequity instead of fixing them.
* Companies might misuse the tool to justify lower salaries under the guise of Ai fairness tool.

# Tools

* Programming
  + Python libraries
    - Sk-learn
    - Matplotlib
    - Numpy
    - Pandas
    - Random
* Github Developer platform
* Git
* Python IDE (Coding platform)
* AI programs

# Techniques

* Data preparation
  + Converting non-numeral data into numerical data to be understood by machine (One-hot encoding)
  + Converting blank values to NaN
  + Remove instances (rows) with NaN
* Model Training
  + Supervised Machine learning approach
  + Use classification Algorithm
  + Random Forest classifier
  + Train test split
* Evaluation Metrics
* Accuracy Score
* Precision Score
* Recall Score
* F1 Score