Midterm Report 1

Team 1 (Truc Huynh, Rushitaa Dattuluri, Sahithi Muppiri)

# Project Description:

The project aims to solve one of the most challenging problems of the workforce. Find the best opportunity for candidates based on their resumes. The application also aims to prepare users with better knowledge of career improvement by getting career knowledge from career experts. Besides the recommendation system, the app equips with a career blog from Indeed.

The application will be delivered in form of a web application. Users will be able to register for their account and log in using their registered credentials. Users then can review the career blog, make comments, and interact with other users on the network (web app). The user then uploads their resume and reviews the recommendation from the system.

The web app features up-to-date technology: salting and storing passwords in encrypted tokens, SQL injection prevention, security form, object-oriented design, and secure upload (there are much more technologies that are built in, but I just want to name a few). By applying industry-standard security features, our group ensures that our applications are not only smart but also secure.

# AI Problem Statements/Use cases:

* 1. AI Problem Statements:

As mentioned in the project description, this application aims to solve locate the best employment opportunities for candidates based on their resumes (skill sets). Without the help of AI and Machine Learning, this would be impossible to achieve (the traditional methods of hiring take a long time to process applications). Our application will deliver the best math jobs for candidates based on their skill set.

* 1. Use Cases:

A possible use case is a job recommendation system (what we are developing) where users submit their resume (education, project, skill sets) to the application. The application then uses its built-in model (machine learning model) to give user recommendation

# Supporting Data & Analysis:

* Rusitaa will follow

# Top 3 AI/ML Methods/algorithms (under consideration):

* Rusitaa will follow

# Team Information & Tools:

* 1. Team members:
     + Truc Huynh (huyntl02@pfw.edu):
       1. Roles: Software Developer/ Programmer
       2. Build Server (Front End, Back End), Database Schema, and Data Warehouse. Deploy Machine Learning Model into the web application, Clean-up data from the users (build data pipe) that transfers user’s resume into tidy data meaningful to the application’s model.
     + Rushitaa Dattuluri ([dattr01@pfw.edu](mailto:dattr01@pfw.edu)):
       1. Roles: Project Manager/ ML Engineer
       2. Develop the Machine Learning Model for the applications, in charge of data preprocessing and overall development process.
     + Sahithi Muppiri (muppiri@pfw.edu)
       1. Roles: Project Coordinator/ ML Engineer
       2. Coordinates with Rushitaa to build the Machine Learning Model and help with data preprocessing.
  2. Tools:
     + Heroku (to deploy the app)
     + PyCharm (to develop the web application)
     + Jupiter Notebook (to build machine learning model)
     + Programing languages: Python, MySQL, PostgreSQL, JavaScript, HTML, CSS
  3. Package:
     + Flask to build Full Stack Web Application and deploy the machine learning model
     + Flask\_Bootstrapap for front-end development
     + Werkzeug: **python** library which contains many developments and debugging tools for implementation of web application gateway interface (WSGI) applications (security, password\_hash, validation, secure file name, secure upload, …)
     + Flask\_ckeditor: to prevent code Injection (Python, SQL, JavaScript in this application)
     + Python pandas: data analysis and manipulation tool using python programming languages
     + Python NumPy (or Numpy array): provides a high-performance multidimensional array object, and tools for working with these arrays
     + Python seaborn: for data visualization and chart
     + Python Sklearn: Python package for developing machine learning model