

FINAL YAER PROJECT REPORT

CV SORTER: A TEXT MINING BASED APPROACH TO SELECT A CV

By

AAQIB SULTAN SIDDIQUE MOHAMMAD	(41261)
AHMED ALI GHOURI	(41268)
MUHAMMAD AZEEM	(41314)
MUHAMMAD ANIQUE IMAM	(41302)
MUHAMMAD DANISH	(41316)

SUPERVISED BY

(ASIA SAMREEN)
BAHRIA UNIVERSITY (KARACHI CAMPUS)
2019

ACKNOWLEDGEMENTS

We would like to thank everyone who had contributed to the successful completion of this project. We would like to express my gratitude to my research supervisor, Miss ASIA SAMREEN for her invaluable advice, guidance and his/her enormous patience throughout the development of the research.

In addition, we would also like to express my gratitude to our loving parent and friends who had helped and given me encouragement.

1

CV SORTER: A TEXT MINING BASED APPROACH TO SELECT A CV

ABSTRACT

Human resource department of organizations receive infinite CVs on regular basis, making it more complex for the HR person to find the best job candidates. In fact, an employer receives an average of 144 CVs per job opening. Usually different people follow the different style therefore required information about the candidates is sometimes missed or takes time to search for. It is usually observed that many people add lot of unnecessary details in their CV. Upon visiting the market, it has been noticed that industries heavily depends on evaluation tools to select the most suitable applicant for the job. In fact, many companies are turning to systems that saves time and rapidly finds the best candidates. HR process of finding the best candidates is challenging because of both sequence of identifying, and quality of determining the candidates. Purpose of this project is to provide an efficient CV extraction tool using text mining algorithm (K-Nearest Neighbours), and also using the features of Natural Language Processing (NLP). The main concept of this research based project is to create a best way to choose the appropriate CV accurately and in speedy process by extracting the best matching resumes. Which will allow HR department to choose the right candidate with minimal standard process.

TABLE OF CONTENTS

DECLAR	RATION		2	
APPROV	AL FOR	SUBMISSION	3	
ACKNOV	WLEDGE	EMENTS	6	
ABSTRA	CT		7	
TABLE O	OF CONT	ENTS	8	
LIST OF	FIGURE	S	11	
LIST OF	TABLES		12	
LIST OF	APPEND	OICES a rar	13	
СНАРТЕ	R			
1	INTRODUCTION			
	1.1	Unstructured and Structured data	1	
	1.2	Text Mining and Natural Language Processing (NLP)	2	
	1.3	Applications of Text Mining	2	
	1.4	Text Mining Areas of Application	3	
	1.5	Recruitment Procedures in Renown Companies	3	
	1.6	Background	5	
	1.7	Problem Statement	5	
	1.8	Aims and Objectives	6	
	1.9	Scope of Project	6	
2	LITERATURE REVIEW			
	2.1	E-Recruitment: A step towards paperless HR	8	
		2.1.1 Techniques:	9	

	2.2	Candidate recruitment system using keyword based searching						
		9						
		2.2.1	Information extraction	10				
		2.2.2	Document Processing	10				
		2.2.3	Mathematical model	11				
	2.3	E-Rec	ruitment Technical system through text	mining				
	proce	sses		11				
3	DESI	DESIGN AND METHODOLOGY 14						
	3.1	Proces	s Model	14				
	3.2	Activit	y Diagram:	15				
	3.3	Use Ca	ase Diagram	16				
	3.4	K-Near	rest Neighbour Algorithm	17				
		3.4.1	Sentence separation	17				
		3.4.2	Text Processing	17				
		3.4.3	Regular expression	18				
		3.4.4	Spacy Python Library	18				
	3.5	System	Requirements	20				
		3.5.1 S	oftware Requirements	20				
		3.5.2	User Requirement	20				
	3.6	Outcon	nes and Benefits of the Project	20				
		3.6.1	Outcomes	20				
		3.6.2	Benefits	21				
	IMPL	IMENTA	ATION	22				
	4.1 Mu	4.1 Multiple Files Upload						
	4.2	Word Extraction						
	4.3	K-Near	est Neighbours (KNN)	23				
		4.3.1	KNN Algorithm Working	23				
	4.4	Testing		32				
		4.4.1	Test Case	32				
		4.4.2	Test Case Template	32				
		442.1	Test Scenarios	33				

5	RESULTS AND DISCUSSIONS			34
	5.1	Result	s	34
		5.1.1	Findings	34
		5.1.2	Comparison with prior studies	34
		5.1.3	Limitations of the resume sorting system	35
		5.1.4	Casual arguments	35
5.2 Discussions		sions	36	
6	CONC	LUSIO	N AND RECOMMENDATIONS	37
	6.1	Conclu	sion	37
	6.2	Recom	mendations	38
REFER	ENCES			39
APPEN	DICES			42
	6.3	FRAM	EWORK MODEL:	43