University of Jordan
School of Engineering
Computer Engineering Department

GP01 – Graduation Project Proposal

Supervisor	Dr. Ashraf Suyyagh	Semester / Year	*Fall 2020*

No.	Student Name	ID Number	Dept.	Signature
1	Hamza Nael Ahmad	0175273	Computer Engineering	

Choose all that applies:

Project Type	☐ Hardware	☐ Software / App / Web Development	☐ Research

Please completely fill all required fields below. Do not change fonts or font size. **The form should not exceed three pages.**

Title of Senior Year Project	Social-Media and AI-Based Opinion Polling Tool
Project Summary	*Opinion polling is a human survey of public opinion from a given sample. Pollsters conduct surveys to weigh public opinion on the popularity of public celebrities or social or political issues. They use these polls to forecast election results or provide decision makers with a social compass on pertinent issues. The samples are usually small and often conducted through phone calls, and sometimes through a website. Despite having a statistical margin of error, Polls often fail in capturing the big picture due to coverage bias, response bias, non-response bias, and sampling errors. In this project, we propose to build a tool that compliments traditional polling techniques that is based on mining social media posts and analyzing the text and/or emotions embedded in user social media interactions. This will allow access to a far greater sample, and possibly alleviate some of the issues that traditional polling techniques suffer from. We propose using cloud-based AI and Machine Learning for the opinion extraction and analysis part. We propose building the entire infrastructure for data collection, preprocessing, analysis, and display using a user-friendly front-end web interface. We will use charts to track opinion polls over time. In this project, we will focus as a case study on analyzing the popularity of foreign political public figures, or famous athletes as a proof of concept.* ***Methodology:*** *Collecting posts from a social media API about a public figure* • *Preprocess the collected data* • *Analyze the posts using and Machine Learning cloud service to extract people feelings or views about the public figure* *Categorize the result into positive and negative* • *Determine the percentage of each category and display the result on the web site* *Objectives:*

	1. *Provide a novel polling service that is more representative, requires less effort and costs less.* 2. *Utilize Cloud-based AI and machine learning to understand how people feel about certain issues.*
Project Impact	*Opinion polling is a powerful tool. Polls measure the nation's attitude toward public figures or important issues. They help decision makers write regulations that the public is in favor of, or sway away from divisive social issues especially in election years. Popular athletes or actors might use their popularity to negotiate better contracts, or club owners might make transfer or athlete procurement decisions based on their popularity. It is essential that these polls be as accurate and representative as much as possible. Our project tries to mine the opinions of much larger sample with minimum effort and cost. It offers the possibility to get more authentic and truthful answers from user interactions that they might not necessarily share with pollster out of fear of judgment or shame.*
Engineering Standards to be used (if any)	*none*
• **Simulators** • **Cloud Services** • **Operating Systems**	*AWS, Azure* *Linux*
• **Software Tools or IDEs** • **Software or Hardware Programming Languages** • **Libraries/Drivers** • **Databases** • **Data Sets**	*IDE: Visual Studio Code* *Web site front-end: JavaScript, HTML, CSS, Twitter Bootstrap, jQuery* *Web site back-end: Node JS and its Libraries* *Database: MongoDB* *Datasets: JSON* *API: Social media APIs (e.g. twitter API).*
Project Constraints, if any.	*The estimated cost of my project is 30$~40$ for the AWS and Azure services. It will be funded using AWS founder package which I got from amazon hackathon competition*
Precise Role of each Student	*I will do all this job on my own*
Final Deliverables	*Web App that mines social media for opinions on public figures*
	Compulsory Deliverables: — **1. Project 1 Progress Report** **2. Final Documentation** **3. Presentation Slides**

For graduation project committee use (please do not write below this point):

Final Committee Decision:

☐ Approved

☐ Approved, with **minor** modifications.

☐ Approved, with **major** modifications.

☐ **Rejected**, submit new project idea.

☐ Language modifications required

	Name	Signature	Date
Chair			
Member I			
Member II			

Detailed Committee Members Remarks

	Comments	Recommendation
Chair		☐ Approved ☐ Approved, with **minor** modifications ☐ Approved, with **major** modifications ☐ **Rejected**, submit new project idea.
Member I		☐ Approved ☐ Approved, with **minor** modifications ☐ Approved, with **major** modifications ☐ **Rejected**, submit new project idea.
Member II		☐ Approved ☐ Approved, with **minor** modifications

		☐ Approved, with **major** modifications ☐ **Rejected**, submit new project idea.