

# VibrosTech Corp



## Financial Solutions by VibrosTech

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# Overview

Objective is to Automate the Data Extraction process by designing Algorithms which will use Artificial Intelligence, NLP and python libraries like NumPy, Pandas etc. to extract the required data from SEC company's annual proxy filing, which will then reduce the manual data entry efforts and increase the efficiency.

# Challenges

The customer required an Artificial Intelligence to fetch the proxy data from SEC website an US based Securities and Exchange Commission website which provides the various companies' data as well as Officers and their designation data.

They needed clean, ready-to-use data which includes Data Manipulation, Data preprocessing, Data Mapping that could be directly uploaded to their database so that they monitor their required data through another portal (CLIC a front-end portal) for Data Visualization.

The requirement is to fetch the content from html-based tables like the Summary compensation table, Outstanding equity components, Exercised and Vested section and Plan-Based awards from the source site.

Because the source websites were in varied formats and designs, this use case falls under our site scan service. The extracted data had to be saved in CSV format and stored to the database. The extraction interval was set at once a day.





### 2018 Summary Compensation Table

The following table shows the compensation earned or received during 2018, 2017, and 2016 by each of 3M's Named Executive Officers (as determined pursuant to the Securities and Exchange Commission's disclosure requirements for executive compensation in Item 402 of Regulation S-K).

Name and Principal Position	Year	Salary (\$)	Stock Awards (\$ <sup>(1)</sup> )	Option Awards (\$ <sup>(2)</sup> )	Non-Equity Incentive Plan Compensation (\$ <sup>(2)</sup> )	Change in Pension Value and Nonqualified Deferred Compensation Earnings (\$ <sup>(2)</sup> )	All Other Compensation (\$ <sup>(2)</sup> )	Total (\$)
Michael F. Roman Chief Executive Officer	2018	1,048,878	3,810,288	3,810,217	1,421,803	3,022,895	141,771	12,864,739
	2017	838,578	1,227,828	1,228,374	1,590,797	2,347,850	70,738	8,808,218
	2016	747,022	1,081,701	1,082,228	802,433	1,444,850	58,483	8,517,484
Inge G. Thulin Executive Chairman of the Board	2018	1,269,200	3,750,032	6,000,864	1,877,788	—	852,492	13,530,288
	2017	1,828,598	6,000,148	6,002,788	4,121,830	2,178,108	708,729	20,535,193
	2016	1,483,829	5,500,110	5,502,954	2,305,878	1,318,893	559,518	16,670,078
Nicholas C. Gangestad Senior Vice President and Chief Financial Officer	2018	832,898	2,338,788	2,338,864	797,782	1,384,479	82,458	7,739,454
	2017	778,103	3,338,178	1,838,708	1,110,878	2,110,808	68,372	9,247,241
	2016	661,561	1,962,287	1,962,787	867,589	1,303,839	58,109	6,835,932
Hui Chao Shi Former Vice Chair and Executive Vice President	2018	888,128	1,977,283	1,977,430	841,643	418,495	182,821	6,253,128
	2017	838,781	1,198,888	1,187,183	1,121,844	1,907,478	188,127	6,420,022
	2016	790,201	1,083,454	1,051,883	808,282	1,298,844	87,814	4,886,358
Julie L. Bushman <sup>(3)</sup> Executive Vice President, International Operations	2018	792,798	1,488,748	1,488,858	848,048	848,378	38,828	6,339,351
	2017	—	—	—	—	—	—	—
Frank R. Little <sup>(3)</sup> Former Executive Vice President, Safety and Graphics Business Group	2018	377,838	1,748,238	1,748,238	284,804	882,573	90,872	4,912,500
	2017	680,838	2,887,000	1,487,388	1,077,371	881,483	123,833	6,887,901
James L. Eakman <sup>(3)</sup> Executive Vice President, Industrial Business Group	2018	783,188	1,418,348	1,418,344	590,884	1,381,211	98,823	5,588,883
	2017	—	—	—	—	—	—	—

<sup>(1)</sup> The amounts in the Stock Awards column reflect the aggregate grant date fair value of such awards computed in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718, Compensation — Stock Compensation, excluding the effect of estimated

# Solutions

Manual data collection methods are obsolete and inefficient when compared to Automated data collection facilitated with Artificial intelligence.

So, it's required to develop a professional automated mechanism with an objective to migrate from a manual data entry process to a system.

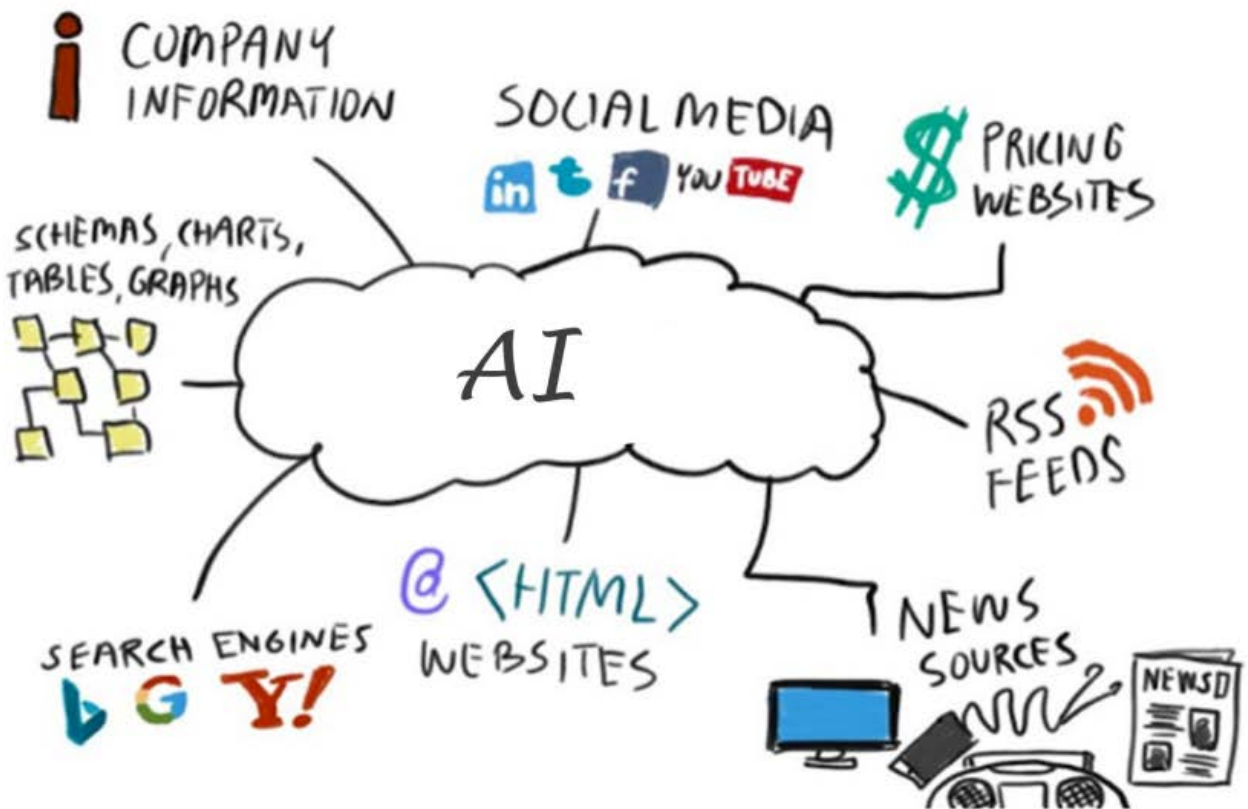
AI Tool is developed as an automation engine which has intelligent agents to fetch different kinds of data from proxy filings on Securities and Exchange SEC portal.

AI Tool then goes on to the respective proxy filing page and locates all the target data. It then downloads all that data, cleans that data, and transform all the data according to the Data-base.

Data extraction and cleaning tool to be developed will be capable enough to identify the required data from company's proxy filing.

Then transforming the data into the database suitable format to store it into underlying database which requires Data Manipulation, Data Transformation and Data preprocessing so that it can be seen from the front-end portal an internal portal (CLIC), and then a QA/sanity check can be done on it also for further downstream operations/analytics.







## TECHNOLOGIES

It is an agent which uses multiple technologies like Python, Artificial intelligence, SQL, data processing libraries like Pandas, NLP and few other technologies to intelligently identify and extract the target data from a paragraph or a table.

## ADVANTAGES

- Faster procedures and time saving
- Can easily extract the data and we get insights of the data
- Minimizes yours Computational cost
- You'll have more time to concentrate on the industry
- There's no need to be concerned about maintenance



## RESULTS

- MAYA model is currently trained to extract Summary compensation table, Outstanding equity components, Exercised and Vested section and Plan-Based awards from the proxy filing of a company.
- It has been observed to give approximately 80-90% accuracy in identifying the target data correctly.





## Contact Us



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