Chapter 1
Artificial Intelligence and Data Analytics–Based Emotional Intelligence

Subramaniam Meenakshi Sundaram

https://orcid.org/0000-0003-2352-0714

GSSS Institute of Engineering and Technology for Women, India

Tejaswini R. Murgod

GSSS Institute of Engineering and Technology for Women, India

Sowmya M.

GSSS Institute of Engineering and Technology for Women, India

ABSTRACT

With the advent of technology, we have seen drastic changes in the way of life. Right from automation to improved security systems, technology got us covered. Machines deployed with intelligence stand the potential to drive cars, perform medical procedures, control traffic, and possibly everything that we can think of. Several large and small-scale organizations are adopting AI technologies to amplify their growth and surpass prior business results. Emotional AI can also help businesses to solve sensitive issues at the workplace. The global outlook is that AI imbibed into automation or robotics is going to revolutionize the markets and workforces. As per market estimates, over the next five years, the affective computing market will witness new heights surging to a growth rate of 43.0% CAGR in terms of revenue, with the global market reaching to US$ 1710 million by 2024 up from US$ 200 million in 2019. In the forecast period from 2019-2024, development around touchless AI models are expected to grow in the affective computing market between 2017 and 2025.

INTRODUCTION

The booming growth of Machine Learning (ML) and Artificial Intelligence, like most transformational technologies, is both exciting and scary (Dwivedi et al., 2021). It is exciting to consider all the ways

our lives may improve, from managing our calendars to making medical diagnoses, but it is scary to consider the social and personal implications as well. As machine learning continues to grow, we all need to develop new skills in order to differentiate ourselves. With advances in Artificial Intelligence, machines can do better than human beings in gathering data, analyzing data, interpreting the results, determining a recommended course of action and implementing the course of action (Chowdhary & Acharjya, 2018). A smart machine might help the doctor to diagnose an illness at a faster rate and even provide necessary recommendation treatment for the same.

It takes a person, however, to sit with a patient, understand their life situation (finances, family, quality of life, etc.), and help determine what treatment plan is optimal. Similarly, a smart machine may be able to diagnose complex business problems and recommend actions to improve an organization. Organizations are using data and insights to enhance customer experience, optimize profit & growth and operational efficiency (Chowdhary, 2021). Using data analytics we get the right information at the right time. Industries today offer data landscape modernization, analytics; provide master data management and data quality as a service. With these the data processing needs in real-time, batch and big data, they deploy analytics models at scale and get consistency and quality of data.

Emotional Intelligence (EI) has always been important, but cultivating the competencies that underpin emotional intelligence will be increasingly significant as automation and Artificial Intelligence replaces all, or part of many jobs. Emotional intelligence closely relates to attention and the executive functions of our brain. Essentially, emotional intelligence is a set of competencies and skills that we use to shift our attention between self-focus, other focus and beyond. We can use these skills to accurately judge our own and other people's emotional expressions, to regulate our own emotions and discern their impact on others. If success and happiness is the goal, these skills are fundamental.

Mayer & Salovey (1997) defined EI as a mental ability, suggesting that emotionally intelligent people perceive emotions more accurately. This enables them to use emotions to facilitate thinking, to understand them and their meanings, and to manage their own emotions as well as someone else's in a more optimal way. In a nutshell, EI can be defined as the meta-ability to perceive and understand emotions, as well as to manage them appropriately and adaptively.

When data is universally accessible, AI teams are focused on development and deployment, and IT infrastructure is flexible and unbounded. AI that is data-driven, production-oriented and cloud-enabled should available anytime, anywhere and at any scale. The enterprise-ready AI is fast becoming a reality. With organizations producing data at unprecedented rates, technology can turn this data into insights and efficiencies that cannot come fast enough. New digital technologies are quickly reshaping the financial services industry and financial institutions are turning AI and machine learning to meet both increased regulatory requirements and customer demand for web-based and mobile access to banking products. Research institutions and medical facilities are using the ability to analyze massive data sets to sequence the human genome, develop new forms of treatment, speed and improve patient care, and better manage electronic health records. The future of manufacturing is connected, automated and digitally driven. As plant floor operations technologies converge with IT, numerous use cases across the manufacturing cycle become possible to ignite innovation, create more efficient operations, reduce downtime and improve worker productivity.

In the following sections we highlight AI and EI, Artificial Emotional Intelligence, technologies adopted for EI, applications of Emotional Intelligence, challenges of AI, Data Analytics and Emotional Intelligence and the future of Artificial Emotional Intelligence

Related Content

Item Selection Using K-Means and Cosine Similarity

Dharmesh Dhabliya, Kshipra Jain, Manju Bargavi, Deepak, Anishkumar Dhablia, Jambi Ratna Raja Kumar, Ankur Guptaand Sabyasachi Pramanik (2024). *AI-Driven Marketing Research and Data Analytics (pp. 228-244).*

www.irma-international.org/chapter/item-selection-using-k-means-and-cosine-similarity/345009

Application of Bayesian Modeling to Management Information Systems: A Latent Scores Approach

Sumeet Guptaand Hee-Wong Kim (2007). *Bayesian Network Technologies: Applications and Graphical Models (pp. 103-126).*

www.irma-international.org/chapter/application-bayesian-modeling-management-information/5498

Building Customized Search Engines: An Interoperability Architecture

Cecil Eng Huang Chua, Roger H.L. Chiangand Veda C. Storey (2009). *International Journal of Intelligent Information Technologies (pp. 1-27).*

www.irma-international.org/article/building-customized-search-engines/4037

For an Intelligent E-Learning: A Managerial Model Suggestion for Artificial Intelligence Supported E-Learning Content Flow

Utku Kose (2018). *Intelligent Systems: Concepts, Methodologies, Tools, and Applications (pp. 297-309).*

www.irma-international.org/chapter/for-an-intelligent-e-learning/205788

A Novel Approach for Detecting and Classifying Breast Cancer in Mammogram Images

S. Shanthiand V. Murali Bhaskaran (2013). *International Journal of Intelligent Information Technologies (pp. 21-39).*

www.irma-international.org/article/novel-approach-detecting-classifying-breast/75544