Info-Graphics Concept Building

Secondary Research

Emotional AI?

Emotional AI refers to technologies that ***use affective computing and artificial intelligence techniques to sense, learn about and interact with human emotional life***. It is a weak form of AI in that these technologies aim to read and react to emotions through text, voice, computer vision, biometric sensing and, potentially, information about a person's context.

While the effectiveness of current methods is highly debatable, we believe that the use of human-state measurement to engage with qualitative dimensions of human life is still in its infancy. ***Emotional AI, and wider automated human-state measurement, thus requires ongoing social, cultural, legal and ethical scrutiny.***

How?

The following ***techniques*** are used to try to sense and discern people's states, emotions and expressions:

Sentiment analysis of online language, emojis, images and video for evidence of moods, feelings and emotions.

Facial coding of expressions: the effectiveness of this method is *highly* debatable, especially when based on the "big six" emotions *(during the 1970's, psychologist Paul Eckman identified six basic emotions that he suggested were universally experienced in all human cultures. The emotions he identified were happiness, sadness, disgust, fear, surprise and anger),* but it analyses faces from a camera feed, a recorded video file, a video frame stream or a photo to "infer" an emotion.

Voice analytics: includes elements such as the rate of speech, increases and decreases in pauses, and tone.

Eye-tracking: measures gaze, eye position and eye movement.

Wearables sense skin responses, muscle activity, heart activity, skin temperature, respiration and brain activity.

Gesture, behaviour and internal physiology: cameras track hands, faces, external bodily behaviour, and remote heart rate tracking.

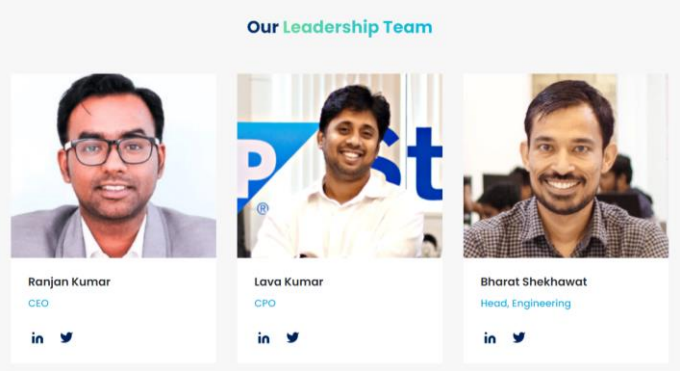
Virtual Reality (VR) allows remote viewers to understand and feel-into what the wearer is experiencing. Headwear may also contain EEG and face muscle sensors.

Augmented Reality (AR): remote viewers can track attention, reactions and interaction with digital objects.

Entropik

Entropik Tech is a pioneer in reading human emotions and helping brands redefine their offerings and experiences.

Their mission is to humanize experiences, building AI technologies that understand human emotion in a fast and scalable manner. Their diverse products allow to measure experiences across Media, Digital, and Shopper interactions in an accurate and meaningful way.



Entropik Tech Values

Invent - Pioneering the ethos of building "World's 1st Solutions" to solve long-standing problems.

Experiment - A ship is safest on the shore, but that's not what it is built for. Experiment and iterate.

Disrupt - Have disruptive ambitions and dare to push boundaries.

Kaizen - Strive for continual improvement to achieve an imaginary perfection.

Resilience **-** Persevere and bounce back from failures.

Entropik Products

Entropik covers 3 SAAS segments of research ***Affect Lab, Affect API & Affect UX***

Affect UX is a cloud-based user testing SaaS platform powered by Emotion AI tech.

Purpose - built for UX researchers and designers, Affect UX allows you to test websites, apps, and prototypes. With high-precision ***Eye Tracking*** (tracking eye gaze movements to know where a person is looking at, at what elements and for how long) and ***Facial Coding*** (computer algorithms to recognize facial expressions and associate them with emotions), peek into the minds of your users by ***Brain Wave Mapping*** (using EEG headsets to measure responses towards sensory stimuli like touch, smell & taste and lastly ***Automatic Speech Recognition*** (we use voice AI to automatically transcribe voice recordings and recognize emotional state)

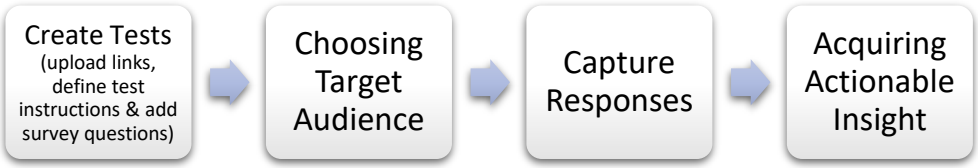
User Insights - Reduction in Development Time, Increase in Online Conversions & Savings in Customer Acquisition Cost (is the amount of money a company spends to get a new customer)

Target Audience - Choose Affect UX if you are a UX researcher/designer wanting to test websites, apps and prototypes for user journey mapping, identifying friction points, and measuring path to purchase. Leveraging the deep expertise to solve industries user experience challenges.

Why the product Affect UX

- In-built Screen Recording - Record complete user sessions using computer vision in real-time for participant observation, eye tracking, and user journey mapping.
- Highly Accurate Eye Tracking - Know with razor-sharp accuracy to know where users are looking at, what they are looking at and for how long they are looking at it.
- Untapped Emotion Insights - Understand the emotional triggers and subconscious preferences of your users to deliver experiences they will love and resonate with
- Dashboards and Data Exports - Visualize engagement, attention, and emotion metrics through eye tracking heatmaps, gaze plots, and AOI charts.
- Clear-cut Insights - Set up pre and post surveys to gather stated responses. Get access to hundreds of questions and survey templates from our library.

Process Work



Benchmark (other companies in Emotional AI niche market)

Promobot + Neurodata Lab

Promobot is an autonomous service robot for business and is designed to work in places that have an increased concentration of people, and helps people with navigation as it autonomously moves, communicates, and answers any questions. The company in collaboration with Neurodata Lab, an Emotion AI hub is enabling the robot to better understand and interpret human emotions, and engage in human-like conversations and interactions. Promobot shows promotional materials and remembers everyone it has communication with. Promobot is programmed to work as an administrator, museum guide, promoter, and host. Promobot can operate in crowded places like cinemas, convention centers, exhibition halls, museums, shopping malls, business centers. Promobot's increased applications can boost the quality of service, financial performance, and customer loyalty of companies where these robots operate.

Emotibot

Founded in 2015, by Mr.Kenny Chien and two angel investors, Emoitbot brings the unlimited potential of AI technology to achieve higher business values. Emoitbot is the only artificial intelligence company with image, language multimodal emotion recognition technology, and voice triple human-computer interaction technology. Emotibot aims to build an Artificial Intelligence companion that can read, see, listen, remember, self-learn, and understands the user's emotion to understand the affective states, emotions, and intentions of the speaker. Through automatic learning of user preferences and habits, Emotibot's AI bots provide users with over 30 services and functions like travel planning, hotel reservations, and so on. The platform supports fast access to mobile phones, websites, App, intelligent devices with an aim to closely connect people with the world.

Affectiva

Affectiva is an emotion measurement technology company incepted and developed at MIT's Media Lab to recognize human emotions based on facial cues or physiological responses. This emotion recognition technology is used to commercially help brands improve their marketing messages and advertising targets. Affectiva partnered with Millward Brown, in 2011 for political polling estimates. The company's technology enables software applications to use a webcam in order to track a user's smirks, furrows, smile, and frowns to measure the levels of surprise, confusion, and amusement. Affectiva's technology allows a person's heart rate to be measured from a webcam without the need of the user to wear a sensor. This is accomplished by tracking the colour changes in the person's face, which pulses each time the heartbeats.

Affectiva's Affdex technology can be used to train a webcam on users while they are watching ads, to track their furrows, smirks, smiles, and frowns to measure their levels of surprise, amusement, or confusion throughout a commercial. This helps for a comparison with other viewers across different demographics. The company has developed the first online face tracking system for an evaluation of the advertising effectiveness, a technology, whose clients include Coca-Cola and others.

Beyond Verbal

Founded in 2012, Beyond Verbal based in Tel Aviv, Israel uses Voice and AI technology to extract human emotions and reveal Vocal Biomarkers including acoustic features which indicate various health conditions. Beyond Verbal has collaborated with leading medical institutions, to perform multiple clinical trials and conducts Big Data projects aimed at revealing signs of pulmonary, neurological, cardiovascular, and other diseases and chronic medical conditions in the voice thus allowing continuous patient monitoring and predictive analytics.

NVISO

NVISO is an artificial intelligence company founded in 2009 and headquartered in Switzerland. NVISO specializes in applying Artificial Visual Intelligence and Deep Learning to accurately detect and predict human emotions and behaviours across a range of industries including Finance, Automotive, and Healthcare across all devices. NVISO provides artificial intelligence solutions that can sense, comprehend and act upon human behaviour using emotion analytics. NVISO's products and services consist of applications, software development kits (SDK's), and data services. These are used by NVISO customers to measure and increase productivity and to accurately perform specific business functions, such as the automation of customer-facing operations. NVISO commercialization is focused on AI solutions for several key industries.

Cynny S.p.a.

Cynny, founded in 2013, has its headquarters in Florence, Italy, and offices in the UK, The USA, and China. Cynny is working on developing Morph Cast, a premium adaptive video format that delivers face recognition in a smartphone without the need for an app or plugin, fuelled by deep neural network technology that enables real-time content-engagement triggers, maintaining the privacy of the viewer's data. Cynny was built upon the premise that the processing capabilities of mobile devices would increase rapidly, enabling companies to create new types of personalized video-based experiences, within the device's browser. Since its inception, Cynny has developed technologies that deliver high market potential with its USP MorphCast® which is changing the rules of marketing in the adaptive era of advertising.

Human (wearehuman.io)

Human founded in 2016, brings data scientists, micro expression coders, and psychologists who work together to build the next step in the human-tech relationship. With offices in the UK, China, and the US, Human leverages Artificial Emotional Intelligence, machine learning to understand characteristics, feelings, emotions, and personality traits of an individual with minimum human bias. The company offers solutions into Recruiting & Employee Retention, Professional Sports Intelligence, Security Detection, Financial Fraud Detection, Sales Prediction, Customer Satisfaction Analysis, Dating EQ, and many other verticals.

CrowdEmotion

CrowdEmotion founded in 2013 and based in London, the UK is an emotion-inspired artificial intelligence Company leveraging technology to hear, feel and see, the way humans do. The company's proprietary emotion engine helps companies, academics, and users to recognize human emotion with an aim to deliver a better experience and life for users. CrowdEmotion has won many awards that help people and technology

come closer together in a natural way. CrowdEmotion's API can mainly be applied to digital experiences, security, autonomous vehicles, and healthcare solutions.

Mad Street Den

Founded in 2013 and based out of the San Francisco Bay Area, Mad Street Den is a Computer Vision-based Artificial Intelligence start-up that is breaking new grounds and setting trends to redefine the future of Retail. Vue.ai is the company's first vertically integrated AI stack for the Retail industry. The AI stack provides 360* solutions for the entire Retail value chain with products that support onsite, in-app experience to marketing & social channels to operations and automation. Besides retail, MAD Stack, Mad Street Den's Computer Vision platform integrates AI capabilities like object recognition, expression/emotion recognition with more capabilities added as development progresses. With a core team of Deep Learning experts, Neuroscientists, Data Science specialists from Stanford, CMU, and MSFT labs, Mad Street Den has been serving reputed brands as its customers across nationalities including the US, the UK, India, Middle East, and Latin America regions.

MusiMap

Musimap is an emotional AI company that is leveraging 20 years of manual tagging efforts. The company aims to add value to the music we listen to with so many years of research expertise, audio processing, and artificial intelligence that the company owns the largest annotated music databases in the world. Musimap has created a technology that is described as a "psycho-emotional profiling engine" called Musime. This technology generated an emotional profile for listeners, detailing their mood, feelings, and values based on their listening history. Its APIs utilize the proprietary databases within fractions of a second to provide clients with unique emotional intelligence. This emotional AI company can cater to music companies and publishers, in-store music providers, audio and video streaming companies, radio stations, various e-commerce platforms, etc.

NuraLogix

Founded in Toronto, NuraLogix developed a technology to read human emotions to an extent that it can detect lying. The company developed a technique called Transdermal Optical Imaging that can read the human emotional state. The technique uses a video camera to extract information from the blood flow. This emotional AI company's applications can be found in domains like marketing, research, and health.

Emoshape

Emoshape is a New York-based emotional AI company that has developed an Emotional Processing Unit (EPU). According to the company, their EPU can provide intelligence devices like robots, self-driving cars, effective toys, etc with the ability to interact with humans. The EPU is a chip that uses algorithms to detect any combination of 12 primary emotions. This enables any intelligent device to understand 64 trillion unique emotional states.

BRAIQ

This is another New York-based emotional AI start-up, founded in 2016. This company has developed a technology that can read your feelings about the autonomous car that is driving you around. While most autonomous car companies design their vehicles on the basis of how the vehicle interacts with its surroundings, BRAIQ aims to look into how these cars should interact with the passengers. According to a survey, about 75% of American's are scared of self-driving cars. BRAIQ hopes to change this mistrust into trust with their technology that can read human's emotional signals to ensure that the passenger enjoys the ride.

Receptiviti

Not just your tone of voice, what you write can also express your feelings, this is the concept of a Toronto-based start-up called Receptivi. This emotional AI company developed a proprietary technology called Linguistic Inquiry and Work Cunt which gathers insights about your character, emotions, and decision-making by taking a look at what you write. This technology uses NLP to capture people's emotions, psychology, and

social concerns. The applications of Receptivi's technology can be used to make chatbots function better, or perform serious psychological analysis that can be used in multiple fields.

Personalyze

Personalyze is an AI-driven people analytics company that has created the world's most powerful profiling technology on individuals across all social and digital platforms. The company aims to help other companies understand their customers in a better way. Personalyze's technology consists of two profiling technologies, social intelligence and emotional intelligence that can analyze people and their social footprint in real-time. In addition to that, the technology's algorithm can examine people's personalities by what the online content they consume which has similar accuracy to a 60-minute written psychometric test

Reference Links

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