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Curated for Non-Techies Leaning into AI Literacy

# Foreword

## Bridging the Gap Between the Tech and Non-tech World

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When Chat GPT first entered the public domain, its advanced ability to generate text shocked the world. Many questioned if human creativity would be replaced by artificial intelligence and if we, human beings, would be surpassed by machines. At Ai BOLD, we see AI (particularly generative AI, a subset of AI) as an augmentation tool to imagine more novel possibilities, not a replacement for creativity. **However, we will endanger human creativity if AI is relied on to do the heavy lifting and our creative muscle isn't exercised. Therefore, it's about leveraging generative AI to co-create novel ideas; and not absolute rejection or dependency.**

Generative AI is undoubtedly causing significant disruption in the creative industry, impacting media production, branding, marketing, and communications. The technology may still be in its infancy and many big technology companies seem to be figuring out what users need, the inevitable is looming, generative AI will be part of the creative process and affect how we consume media and content - despite our stance. **We must be prepared today by leaning into AI literacy for tomorrow's world.**

### So let's start with language

This glossary is a starter tool to demystify the language of generative AI. Curated for professionals outside the technology industry, our objective is to unlock technical terminology and bridge the gaps between the technology and non-technology world. We believe language is crucial to fostering a greater understanding of AI, unravelling general misconceptions about AI and empowering individuals to navigate AI with clarity and confidence.

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# Disclaimer

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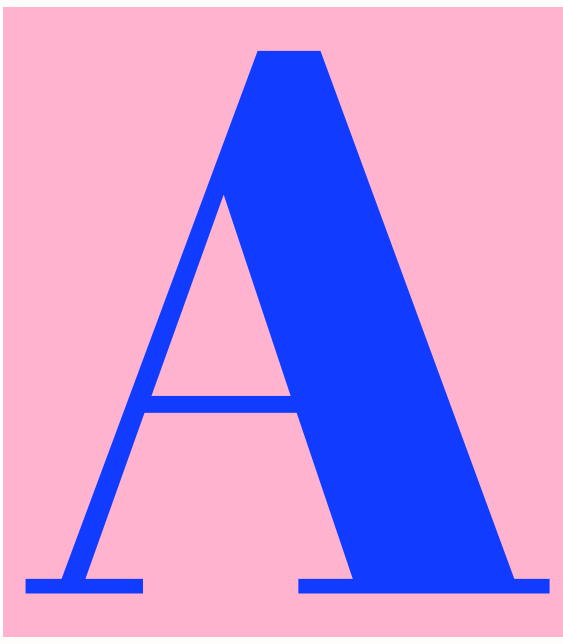
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## Algorithms

A set of instructions directing computer programs to utilise input data to perform tasks and solve problems. AI machine learning algorithms are broadly categorised into three types: supervised, unsupervised, and reinforcement learning.

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## Artificial Intelligence (AI)

Augmented Intelligence that assists professionals in handling time-consuming tasks. It involves developing machine learning models from provided input-output pairs. AI can be categorised into three types based on its capabilities: Weak/Narrow AI, Strong/Generalized AI, and Super/Conscious AI. AI is an interdisciplinary field which merges Computer Science, Electrical Engineering, Mathematics, Statistics, Psychology, Linguistics, and Philosophy.

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## Artificial Neural Networks (ANNs)

Inspired by biological neural networks, ANNs are interconnected nodes or neurons in a layered structure, leveraging weights and bias to learn input-output data relationships.

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## Artificial Neuron or Node

A function that receives input data, calculates it, and produces an output.

In an artificial neural network, neurons are interconnected to model complex relationships in unstructured data.

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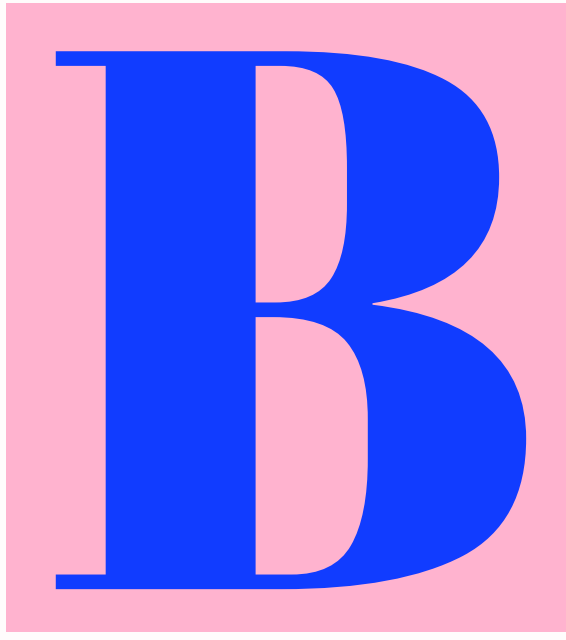
## Application Programming Interface

A set of instructions directing computer programs to perform tasks and solve problems.

Algorithms are fundamental to generative AI and are utilized in various fields including search engines, navigation systems, and finance.

In Generative AI models, APIs allow developers to access models without building or training them and to integrate the models into their applications, websites, or services, such as tailored chatbots.

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## Back-propagation Algorithm

A popular supervised learning method in neural networks. A back-propagation is employed when an error is computed (actual vs. desired) in an output. The back-propagated algorithm adjusts the weights and biases from the output layer to the input layer.

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## Bias in AI

Refers to systemic and non-systemic biases that are inadvertently or deliberately encoded into AI systems.

These biases can occur through the data used to train AI, the design of the AI algorithms, or the interpretative biases of those who deploy AI systems.

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## Bias Mitigation

Policies to reduce or eliminate biases inherent in datasets, algorithms, and decision-making processes. Potential biases are identified and mitigated by considering societal contexts and historical inequities, ensuring diversity and representativeness in training data and evaluating biases to understand their impacts. Transparency, explainability and ongoing monitoring also play a crucial role.

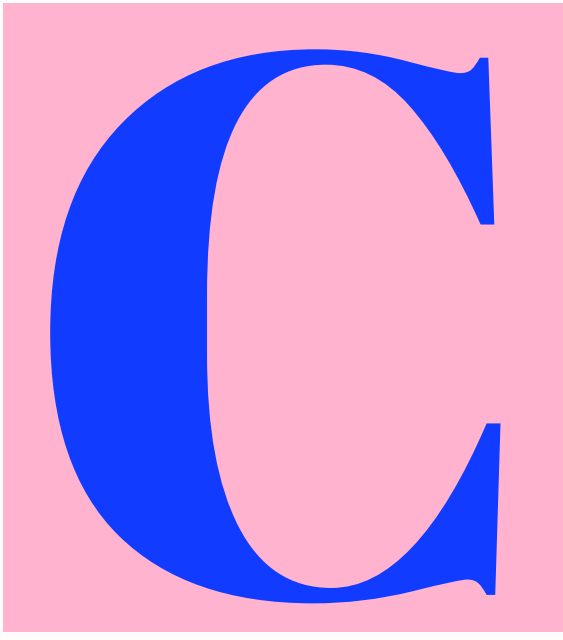
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## Bias Weight

A type of learning parameter in a perceptron. A bias weight is added as an additional weight to offer more flexibility in a classification calculation. For example, to predict whether a student will pass or fail an exam, input variables such as hours studied and previous exam scores are computed in a perceptron.

Without an added bias weight, certain outputs will not pass the threshold set to be classified as a pass, whilst with a bias weight, the threshold can offset the output classification allowing more flexibility.

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## Closed-source AI Models

Proprietary models that are accessible only to the owner and authorised parties. Closed models can facilitate faster development cycles, enhancing security and performance, thereby making them more secure, efficient, and ready for commercial adoption.

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## Cognitive Computing

A subset of artificial intelligence that imitates human thought processes and reasoning in computer systems. Its' aim is to support human intelligence by providing intelligent assistance, cognitive computing includes machine learning, natural language processing, and computer vision. Unlike traditional computing, cognitive systems can analyse large volumes of structured and unstructured data, make informed decisions, and engage in natural language conversations with users.

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## Computing

Computers and computational techniques perform various tasks, including storing, processing, and analysing data, solving problems and executing algorithms. This field includes broad activities, from basic arithmetic calculations to complex simulations and artificial intelligence.

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## Convolutional Neural Networks (CNNs)

A class of deep neural networks, most commonly applied to analyzing visual imagery. CNNs are designed to automatically and adaptively extract features and learn patterns within images - through a series of deep learning layers.

They are used in computer vision, such as image and video recognition, image classification, medical image analysis, natural language processing, and others.

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## Digital Data

Information encoded in a format suitable for storage, transmission, or analysis. In the context of modern computers and communication systems, data is typically represented in binary digital form, allowing for efficient processing and transmission. The term data can be used both singularly and plural. Raw data refers to information in its simplest digital form, before any processing or manipulation.

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## Data Mining

A process of discovering patterns, trends and insights from large datasets using various computational techniques, statistical methods, and machine learning algorithms. The purpose is to extract valuable information and knowledge from raw data to support decision-making and prediction through data preprocessing, pattern discovery, classification, clustering, regression, and association rule mining.

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## Data Scraping

An automated process of extracting information from websites and reorganising it into spreadsheets or databases. So that the data is ready for analysis, processing, or presentation. Data scraping can be used to gather various types of data, including text, images, and files, for purposes such as market research, competitive analysis, and data aggregation. The three primary types of data scraping include report mining, screen scraping, and web scraping.

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## Datasets

Collections of data organized in a structured format for analysis, research, or reference purposes. They can vary in size and complexity, ranging from small, well-curated datasets to large, unstructured datasets containing vast amounts of information. Datasets can come from various sources, including scientific experiments, surveys, observations, sensors, and databases. They are typically stored in formats such as spreadsheets, databases, CSV files, or JSON files, and may contain different types of data, such as text, numbers, images, or audio. Datasets play a crucial role in machine learning, data mining, statistical analysis, and other data-driven fields, providing valuable insights and enabling researchers and practitioners to derive meaningful conclusions and make informed decisions.

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## Deep Learning

A network of artificial neurons that identify patterns in unstructured data such as digital images, text, and audio, identify patterns, to predict outcomes. The deep in deep learning networks refers to layers of neural networks - usually stacked on top of one another. Deep learning networks can utilise supervised or unsupervised learning and can be hybridised with other approaches, such as incorporating a recurrent neural network with a deep learning network.

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