

Sigmoid — Open Toolkit for Teaching Al in K-12 education Work in Progress Concept by Simran Singh # #Sigmoid #AlForK12

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Introduction

With the steady development in the field of Al over the several last decades, and in particular, the recent interest in Al-driven business use cases and its penetration across the computing and technology driven spaces, it is increasingly becoming relevant for professionals in such areas to be aware and proficient in Al. While there is an emergence of Al-related courses and programs at undergraduate and above levels of study, we are exploring its relevance in K-12 education space - including questions like if we need for teaching about AI in K-12 and if it is, what are some meaningful ways to incorporate Al in the existing curriculum of major school boards in India. With these, we hope to participate in the K-12 education ecosystem by enabling the teachers through open resources to teach AI to their students.

Robots are not rapidly taking jobs over, but mindsets need to shift. It's not just how to code machines will take over much of the low-level coding. The urgency is around collaboration [...] It's not just about learning to code; the ethical implications are much bigger; Al has permeated all fields.

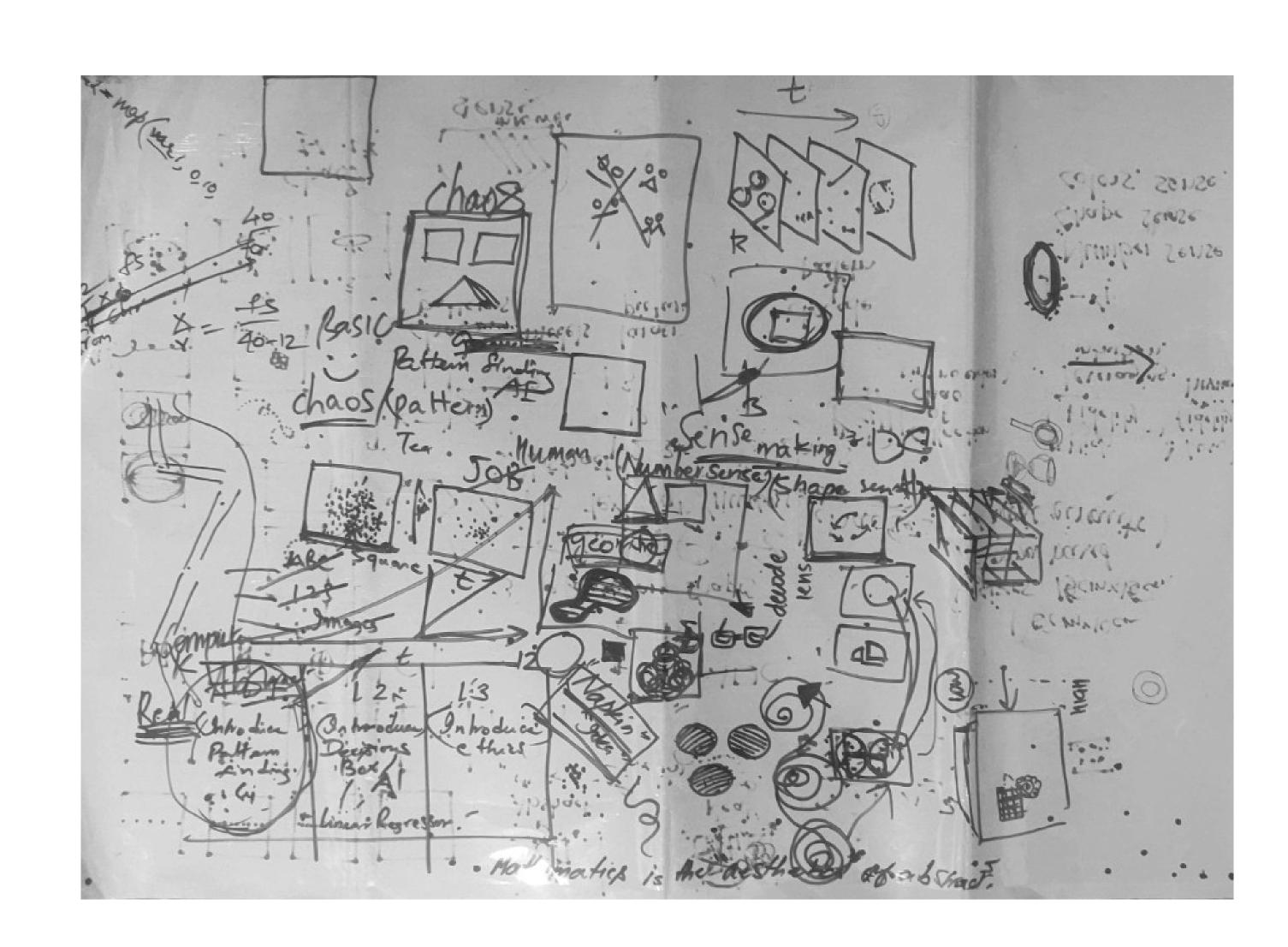
MICHELLE ZIMMERMAN, A RESEARCHER AND EDUCATOR AT WASHINGTON, US*

We are exploring possibilities in designing resources to teach Al not only in an engaging way but from a neutral standpoint through which children are exposed to both possibilities and challenges Al might pose to society and human.

Objective

To explore and realise a series of novel and open resources to teach Al in K- 12.

- Developing low-cost paper based toolkits to enable teaching AI in schools.
- Developing simple and beginner friendly introduction to AI by scaffolding technical complexity of implementing Al.
- Creating artefacts to provoke conversations around AI and ethics in the classrooms.





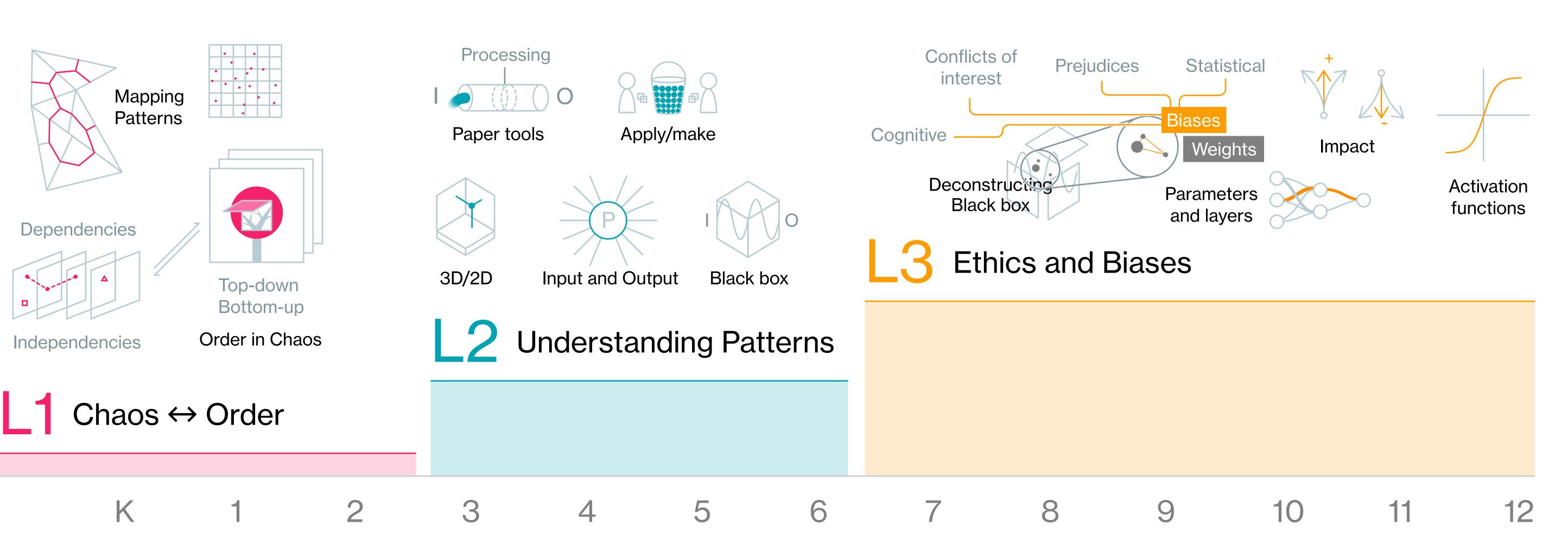


FIG. Top left and right: Notes from conceptualizing the high level structure of toolkit; Bottom: Sigmoid Concept juxtaposed on K-12 curriculum.





Early Concept

Our concept intends to make Al understandable through a paper toolkit beyond just translating major processes in ML. It also introduces related concepts and implications; making it engaging and straightforward enough to pursue from start to finish without getting lost on the way. The approach was flipped by trying to see what a computer as a human is doing - decoding coded patterns.

The teacher facilitates activities through this kit that contains tangible and interactive patterns, to bring new ways of establishing relationships between concepts both physically and visually.

Consciously kept independent of being placed under an academic discipline, a teaching-toolkit as a with-school intervention is conceptualized, bringing about collective understanding and acceptance of different ways of thinking and learning.

ABOUT THE AUTHOR

Simran Singh is a Human-Centered Design student pursuing her undergrad degree at Srishti, Bangalore. An analytical-dreamer, her work focusses on understanding the use-cases of emerging technologies and applying it in a user-friendly context. She sees value in algorithmic thinking to help understand, decode and apply at the context of design.







