# Project Name :

##### Pattern behind chaos

# Project idea :

# Chaos game representation of Genomic data (DNA or Protein)

**Team Name** :

Innovation Geeks

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**Project Abstract:**

Visualization of genetic materials ( DNA or Protein sequences) using the concept of Chaos graphical representation for easier and faster analysis

**Project Objectives:**

Recognizing patterns that relies on visual identification is much easier than in the text format, it also could be used in the process of comparing differences among genetic materials and in the evolutionary relationships.

Tools, Hardware and Software Resources:

**Tools:-**

**-Programming languages (Python – HTML – CSS - JavaScript)**

**-Editors : Visual studio code**

**-Understanding of k-mer concept and providing the appropriate data for the input (Fasta or Fastq File)**

**Software:- desktop or web**

**Hardware:- nothing needed more than your laptop to run the software**

Literature Review:

Intro:

If you’re given a list of coordinates in a text file and asked to describe what you understood from these numbers

And given the same list of coordinates but expressed in a graph, you would choose the graph as it is easier and faster to be understood.

Chaos representation of genome sequences has been used for visual representation of sequence patterns

It could either be used for showing pattern in the same species or among different species (evolutionary relationships), so it’s a powerful tool in extracting information about your genome

References:

[**https://www.youtube.com/watch?v=oaG7ocRs5Ek**](https://www.youtube.com/watch?v=oaG7ocRs5Ek)

[**https://towardsdatascience.com/chaos-game-representation-of-a-genetic-sequence-4681f1a67e14**](https://towardsdatascience.com/chaos-game-representation-of-a-genetic-sequence-4681f1a67e14)

[**https://www.youtube.com/watch?v=r\_5shyQGIeA**](https://www.youtube.com/watch?v=r_5shyQGIeA)