

# Exploring Planets Position in Human Horoscope based on Fractals and Planets Calculation

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## ABSTRACT

Fractal provides many methods for characterizing complexity as well as subsequent random movements of the planets in one's Horoscope. These methods are used to inspect the stability and the relationship between the planets in Human Horoscope, which is responsible for every individual's mood, personality and situation depending on the time and place of birth. Insight, the Percolation method is used to analyze the motion of the planets based on the pattern formation of planets. A minute difference in degrees of planets placement makes a great differences in each and every individual's life, which is analyzed more appropriately by using ANOVA.

**Keywords:** Complexity, Fractal, Horoscope, Percolation, Random, Stability.

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## 1. INTRODUCTION

The word Astrology is derived from two Greek words Astra and Logos where Astra means star and Logos means logic or reason which literally implies the set of guidelines and regulation shown by the stars or planets. An astrological chart or diagram representing the

positions of the Sun, Moon, planets, stars, astrological aspects and sensitive angles at the time of an event, such as the moment of a person's birth is called as *Horoscope* as in Figure-1. Each and every Horoscope has different combination of planets and stars in different signs. The combination of planets

forms a Connection between the planets in the planetary motion of one’s Horoscope which leads to a Network formation. The aspects formed between the planets and the stars

describe these relationships, the positions of the planets in relation to the place of birth state us of their expression in the spheres of life depicted by the astrological houses [1].



Figure 1: Sample Human Horoscopes

Further each person's personality is influenced by their zodiac sign, which have a deep connection with the elements in our universe, namely earth, water, ether, fire and air. The scaling of 9 Planets and 27 Nakshatharas gathering in one’s Horoscope is called as Fractal - constitutes a major result of Chaos, since in Chaos theory the random events can be happen within patterns representing the overall predictable state which creates a Fractal curve of infinite complexity. Even though the combination of planets differs person to person, there exists a Quasi-Self similarity among the Connection of planets in which Fractal appears approximately but not exactly identical at different stages [2].

Astrological planets contains most of its possible presentations within the overall predictable form of the planetary sign which is clearly understand by the Fractal method Percolation as Percolation theory provides a systematic way of studying connectivity in which the connection of planets are defined geographically[3, 4]. The distribution of the planets pattern in the Horoscope based on the time complexity is modeled by Percolation [5, 6]. In addition these predications are also inference by using Statistical tools [7] through which the consistent of the planetary positions were examined, such inference is known as predictive inference with the approach of statistical inference.

In this paper, the Hidden Markov model is applied to the planets distribution in the HumanHoroscope along with Percolation. This can be described in detail in the following sections.

## 2. PERCOLATION MODEL

Percolation model provides a very simple method to calculate the random

movement of the planets and Nakshatharas in one's Horoscope that however retains sufficient practicality to make the relevant prediction. This percolation theory describes the behaviour of the connected clusters of Nakshatharas and planets as shown in the Figure-2 in the Universe by a random graph.



Figure 2: Percolation cluster of Planets and Nakshatharas in the Universe

Considering the Horoscope a square lattice, in which each house is occupied randomly by the planets with probability  $p$  and the house which is not occupied by the planets with probability  $1-p$ . Here each house is considered only once that can be translated into a growth model which is started from an occupied house and then go through the neighboring houses, occupying a fraction  $p$  of them at random. By repeating this procedure

many times, we end up with a distribution of clusters as in Figure-3. The combinations of the planets connectivity may differ for person to person but there exists a Quasi-Self similarity as mentioned in Figure-4, this leads to the formation of Fractals in the Horoscope. The path between the connections of planets within the occupied houses induces the existence of percolation threshold value  $p_c$  which is the prediction.

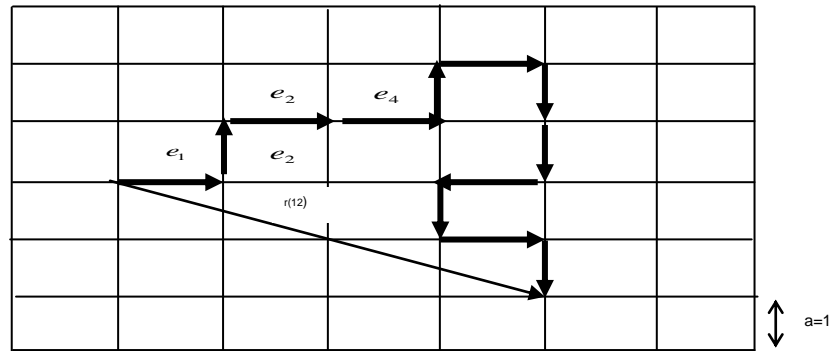


Figure 3: Steps for the percolation model

Based on the random movement of the planets, the percolation transition of planets is formed. This transition is randomized by the geometrical properties of the clusters of the planets neighboring the threshold value  $p_c$ . This threshold value gives the life period of an

individual with the probability  $P(r, t)$ . Random movement of a planet from a percolation cluster the probability density  $P(r, t)$  is found for the random movement after  $t$  time steps on a house at a distance  $r$  from the starting house named Lagna.

Me			
Mo			
Su			Ju
Ma	Ke	Rasi Chart	Sa
Asc			Ra
Ve			

	Mo	Su	Asc
	Me	Ke	Ve
Ma			
		Rasi Chart	Ju
	Sa		
	Ra		

Ju			Ke
		Rasi Chart	Asc
Mo		Ve	Su
Ra		Ma	Me
			Sa

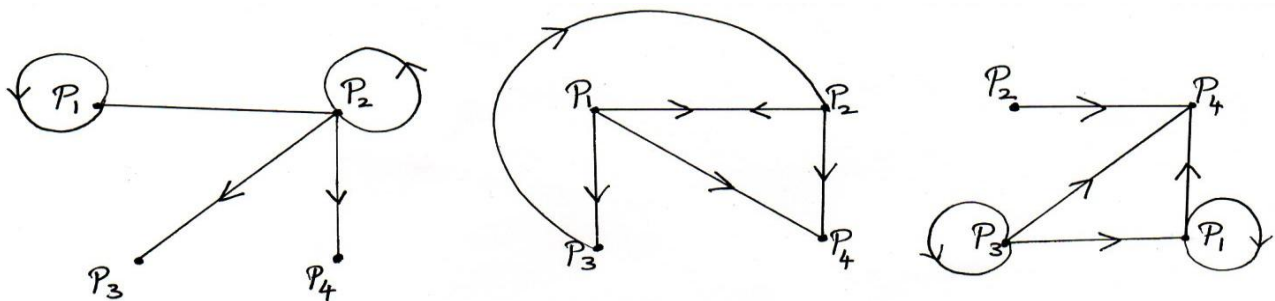


Figure 4: Three different Person's horoscope and its Route Graph

Usually, the predictions are made from the first house, Lagna in the Horoscope. As the earth rotates and all the Nakshatharas form an elliptic path in the space this Lagna will vary for person to person, this irregularity in the Horoscopes leads to the formation of Fractals in the Horoscope. This irregular combination of planets and Nakshatharas placement in a Horoscope is analyzed by Time complexity. Due to the variation in time there is a random change in the movement of planets these movements can be modeled by Hidden Markov model. In percolation, the concentration  $p$  of the occupied houses plays the same role for various time transitions.

The binomial distribution describes the possible number of times that a particular planet will occur in a sequence of observations. The probability function

$$P(r, p, t) = \binom{t}{r} p^r (1 - p)^{t-r} \tag{1}$$

for  $r = 0, 1, 2, \dots$  where  $\binom{t}{r} = \frac{t!}{r!(t-r)!}$  gives the transition percolation for the random movements of the planets distribution in the Horoscope.

### 3. HIDDEN MARKOV MODEL

Generally a Markov model is a probabilistic random process over a finite set of states  $s_1, s_2, \dots, s_n$  in which the probability effect of the present state will be definitely dependent on the past and these states change only at discrete facts in time. The Hidden Markov model is simply a Markov model in which the states are hidden. This model is useful for understanding the conditions leading to a sharp transition of planets obviously capturing the time complexity. Each planet transition creates their probability in the Horoscope for which the prediction is made. Also this model serves as a prototype that helps us to visualize the behavior of the percolation transition in a real-world complex network of the planets based on the time complexity. The transition probability  $P_{ij}$  is the probability that if the present of the planet is  $s_i$  the next state will be  $s_j$ . These probabilities  $P_{ij}$  must satisfy

$$0 \leq P_{ij} \leq 1 \quad \text{and} \quad \sum_{j=1}^n P_{ij} = 1 \tag{2}$$

since the sum of probabilities of transitions to all possible states of the planets must be unity. This transition probability varies person to person due to a random movement of the planets but their sum is unity; such an irregular transition generates the formation of Fractals in

the Horoscope. This transition probability can be expressed in the matrix form known as

Transition Matrix which is an important tool for analyzing Markov chains.

For example consider the probability for the combinations of the planets and Nakshatharas in the matrix form for the Horoscope from which the prediction is made. Let the Transition Matrix be denoted by  $P = P_{ij}$

$$\begin{matrix}
 & & & & X_{t+1} \\
 & & & & \text{favour} & \text{unfavour} \\
 & & & & \text{favour} & \text{unfavour} \\
 X_t & = & \begin{pmatrix} 0.6 & 0.4 \\ 0.2 & 0.8 \end{pmatrix}
 \end{matrix}$$

In the above Transition Matrix  $P$ , the rows represent now or from  $X_t$  and the columns represent next or to  $X_{t+1}$ . The entry  $(i, j)$  is the conditional probability that next =  $j$ , given that now =  $i$ : the probability of going from state  $i$  to state  $j$ .

$$p_{ij} = P(X_{t+1} = j | X_t = i) \tag{3}$$

The state diagram for this model has two stages as shown in the following Figure-5.

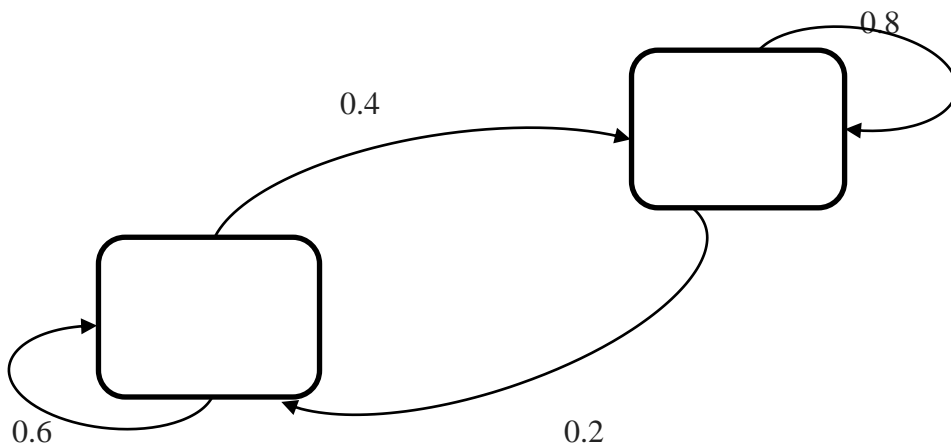


Figure 5: Diagrammatic representation of Hidden Markov model

This Transition Matrix  $P$  is called as Regular Stochastic Matrix if all the elements of some power of  $P$  are greater than 0.

For power 2, the matrix will be

$$\begin{aligned} P^2 &= P.P \\ &= \begin{bmatrix} 0.6 & 0.4 \\ 0.2 & 0.8 \end{bmatrix} \begin{bmatrix} 0.6 & 0.4 \\ 0.2 & 0.8 \end{bmatrix} \\ &= \begin{bmatrix} 0.44 & 0.56 \\ 0.28 & 0.72 \end{bmatrix} \end{aligned}$$

Here all the elements are positive, i.e., greater than 0. Therefore  $P$  is a Regular Stochastic Matrix.

The Hidden Markov model is also applied to calculate the Dasa Bhukti period as each Dasa Bhukti is organized by one of the nine planets. This Dasa Bhukti period is nothing but the planetary periods which indicates the good or bad effects period according to their placement by the Moon Sign (Rasi), House Bhava, Combinations of planets and Nakshatharas. This period is a cycle of 120 years with each planet has its own period as mentioned in Table-1 created on the maximum possible life span for each and every individual.

The Dasa Bhukti period is calculated by the position of the Moon at the time of birth in one's Horoscope. This Dasa Bhukti Period is nothing but the planetary periods in the Horoscope which indicate the good or bad effects period according to their placement by Moon Sign (Rasi), House Bhava, Combinations of planets and Nakshatharas which is a cycle of 120 years created on the maximum possible life span for each and every individual.

The Hidden Markov model is applied to calculate the Dasa Bhukti as each Dasa Bhukti is controlled by one of the nine planets and the relative compassion of each period is determined by the condition and position of that planet in the Birth Chart. This planetary period determines the different stages of one's life. Each of the planets has their own period in the cycle and is linked to the system of Nakshatharas by the fact that each of the Navagraha (planets) is the ruler of three of the twenty seven Nakshatharas together with the position of the moon as in the Table-1.

Table 1 Twenty Seven Nakshatras DasaBhukti period of Nine Planets

Dasa Lord	Duration (Years)	Nakshatras		
Ketu	7	Ashwini - 1	Magha - 10	Mula - 19
Venus	20	Bharani - 2	Purva Phalguni - 11	Purva Ashadha - 20
Sun	6	Krittika - 3	Uttara Phalguni - 12	Uttara Ashadha - 21
Moon	10	Rohini - 4	Hasta - 13	Shravana - 22
Mars	7	Mrigashirsha - 5	Chitra - 14	Dhanishtha - 23
Rahu	18	Ardra - 6	Swati - 15	Shatabhishak - 24
Jupiter	16	Punarvasu - 7	Vishaka - 16	Purva Bhadra - 25
Saturn	19	Pushya - 8	Anuradha - 17	Uttara Bhadra - 26
Mercury	17	Ashlesha - 9	Jyestha - 18	Revati - 27
Sum	<u>120</u>			

**4**

**. CALCULATION OF HOROSCOPE USING THE PLANETS POSITIONS (in degrees) IN THE HOROSCOPE**

The Statistical calculation of the Horoscope is mainly established with the degree of the planets position in the horoscope. By knowing this degree of planets it is possible to calculate exact description of planets in zodiac and their strength. Every Human being is unique in many ways and this uniqueness can only be justified by the exact pointed location of planets and house (cusp). Each degree of the planets in the birth chart corresponds to a specific star. When a planet exists in a certain degree the effect of stars are conceived by the

planets and is reflected in one’s lives. The minute differences in degrees of planets placement will have great differences in life of each and every individuals.

Analysis of variance (ANOVA) is mainly used to compare the means of several groups of person’s planet location in their horoscopes. This technique is widely used in different fields to study the pattern of averages in them. An F-test is used to test null hypothesis: that the means of all the groups of observations are equal. The Coefficient of Variation for the planet’s location is also applied to find the Stability of the planets in Horoscope. The Stability of planets endures their strength in the Horoscope due to which it



is possible for making prediction. The distribution of the planets with lesser Coefficient of Variation is considered to be more stable. If there is more stability among the

planets, then there is less variability in the planets placement. The Coefficient of Variation can be determined by using the formula mentioned in eqn.-4.

$$\text{Coefficient of Variation} = \frac{\text{S.D}}{\text{mean}} \times 100 \quad (4)$$

The following Table-2 gives the readings of few sample Horoscopes based on the degree of the 9 planets by using Coefficient of Variation for 6 different persons which gives the Stability for the planets placement in the Horoscopes.

Table 2 Data Analysis of the 9 planets in degrees

PLANETS	PERSON A	PERSON B	PERSON C	PERSON D	PERSON E	PERSON F
SUN	51	166	188	67	118	305
MOON	357	97	34	288	95	360
MARS	311	208	211	123	68	332
MERCURY	37	187	191	48	107	284
JUPITER	125	152	331	267	204	224
VENUS	77	127	189	71	116	331
SATURN	214	159	167	132	114	190
RAHU	225	114	252	297	35	68
KETHU	45	294	72	117	215	248

For the values in the above Table-2 the Coefficient of Variation is calculated by using the formula of Coefficient of Variation in eqn.-4.

Table 3 Statistical Values of 6 persons

<b>PERSON</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
<b>MEAN</b>	160.2	167.11	181.67	156.67	119.11	260.22
<b>STANDARD DEVIATION</b>	113.05	175.64	83.22	94.05	54.63	85.66

From the above Table-3, the results of Coefficient of Variation for 6 Persons A, B, C, D,E and F are given in Table-4 which is compared. The Coefficient of Variation of Person C is lesser than other Persons, so Person C has more Stability of planets placement in the Horoscope.

Hence the prediction of one’s Horoscope is possible by the position of the planets in Horoscope, if the positions of the planets are more Stable, the planets gives a favorable outcome throughout their life time.

Table 4Coefficient of Variation values for 6 persons

<b>PERSON</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
<b>COEFFICIENT OF VARIATION</b>	70.6	105.1	45.81	60.31	45.86	32.92

The above example clearly states that the prediction is possible by the placement of the planets in the Horoscope, if the placements of the planets are more Consistent; it gives a favorable outcome throughout one’s life time.

whether the average of the planets positions are equal or not. Since, this analyzation is consists of classifying and cross-classifying statistical results and testing whether the means of a specified classification differs significantly.

For the data in Table-2, the ANOVA is performed as mentioned in Table- 5,to test

Table 5 ANOVA Table

Source of Variation	Sum of squares	Degrees of freedom	Mean sum of squares	Variance ratio F	Table Value of F
Between Planets	SSC=99390.61	c-1=5	$MSC = \frac{SSC}{c-1}$ = 19878.12	$\frac{MSC}{MSE}$  = $\frac{19878.12}{7911.35}$	2.53
Residue	SSE=54.2	(N-c) =48	$MSE = \frac{SSE}{N - C}$  = 7911.35	= 2.513	

Hence there is no significant difference among the positions of Planets and these 9 Planets do not differ with respect to mean prediction.

Thus, the position of planets influence in a person’s Horoscope when it revolves around different houses is analyzed more appropriately by using ANOVA.

**5. CONCLUSION**

The paper illustrates Human Horoscope in the spotlight of fractals based on Diffusion that process the combination of planets in the Horoscope with the characteristic of time scale that affects the transport of the planets. The Random Walk of the planets induces the connection among the planets depends on time

variation. This Diffusion process along with Random Walk is an efficient way to model the changes in conjunction of the planets which is more efficient in analyzing the Horoscope. The percolation method determines the planets distribution in the Horoscope using Binomial distribution and the Hidden Markov model describes the probability of the planets favorable in one’s Horoscope. Among the different methods utilized to analyze the Human Horoscope calculating Consistency of the planets in one’s Horoscope results in more accurate prediction. The Coefficient of

Variation is calculated for the different person results infinding the Stability of the planets placement in the Horoscope due to which the prediction can be made.

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