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Study of Analysis of Development of Major Road Network at Aurangabad City

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Abstract: Road network is the main Breathing Streamline of the city. The excellent of life of the citizens is distinctly is predicated on the performance and effectiveness of its transportation system.
Effective road network helps in development of the city. This paper presents an analysis and study of the Aurangabad city road network, city development along the old road networks, upcoming proposed new road networks and future proposal of road network development of city.
Keywords: Jalna Road, Tilak Road, Jalgaon Road, Beed Bypass, Paithan road, Shenra-Bidkin Corridor.

I. INTRODUCTION

Transportation is maximum critical as ways as increase of unique city is taken into consideration. Public transport in maximum of Indian cities is swiftly decaying because of growing travel call for and inadequate transportation system. Aurangabad, vital metropolis in state of Maharashtra coping with several issues related to public shipping because of increase in populace, of both human beings and motor motors. The great of lifestyles of the residents is quite is based at the efficiency and effectiveness of its transportation gadget. [1]

The primary aim of transportation is to get clean get entry to each and every vicinity within the metropolis. Effective transportation machine allows reducing time consumption in addition to pollutants to a degree. This paper offers the take a look at of analysis of the Aurangabad city's transportation system, issues inside the current gadget and discusses distinct strategies for community analysis.

It'll display us a clear image where we want to recognition to make Aurangabad as a clever metropolis.

The intention of this examine is to do an analysis of the modern-day shipping device in Aurangabad town and offer higher way to serve futures increasing populace.

Geography of Transportation is concerned with study of transportation, its Development, location & operation within the territorial economic complexes of countries and regions &it's are relationship with the location of industry and agriculture, of population and cities and of natural phenomena and resources. Transportation network improvement is considered to be one of the keys to modernization and improvement.

Source: Patil R.P. (2009) - Road Network - A Study of Marathwada Region – Research Analysis and Evaluation, International Referred Research Journal, Vol. III, Issue-29.

An efficient road community is inevitable for meeting the needs of a transportation system inside the country (Eshita Boral & sukla Bahaduri, 2015). The growth & development of transportation provide a medium, contributing to the progress of Agriculture, Marketing, Industry, Commerce, Administration, Defense, Education, Health or any other community activity. Transport is dependent on infrastructure and modes of Transportation. (saxena, 2016)[1][2]

STUDY AREA: -

Aurangabad is an ancient & a big city in the state of Maharashtra in India. It is considered as Historical and Industrial hub of Maharashtra that stands on the bank of Kham River. The study area is located in the Middle North part of the state and bounded by 19°53'0"N Latitude and 75°20'00"E Longitude and the total geographical area of the is 135.752 Km. The city has historical 52 Gates, but only 13 have survived over a period of time. The geographical location map of the study area is shown in Figure

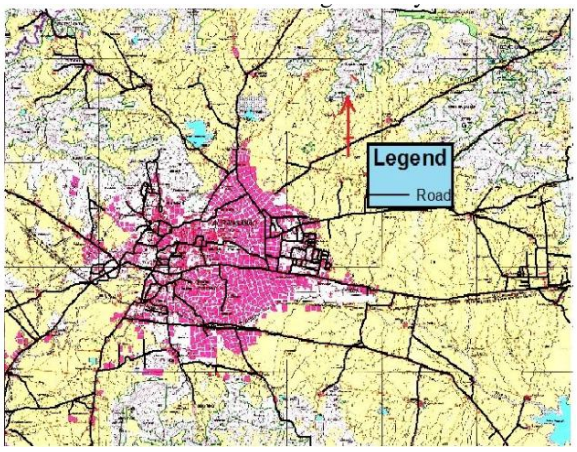
2. Source: Guruji, A. K., Agarwal, H., & Parsediya, D. K. (2016). Time-efficient A* algorithm for robot path planning. Procedia Technology, 23, 144-149.

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Source: BHISE ge[2]Etika a., varsha g. Jadhav, sneha r. Magar, sarade urmila s.
http://www.ijirset.com/upload/2019/december/63



Source: semanticscholar.org

II. ANALYSIS OF ROAD NETWORK

The ancient city was fortified, and it developed along the main central access which commonly known as the Tilak Path. This tilak Path was directly connected to that time city Royal Place I.e., Kila-e-Ark to the Paithan gate. Through this gate ancient Fortified city was connected to the South of the India, where Paithan City came first.

Later central bus stand and Cloth mill was settled outside the fortified city but well connected to the main Tilak path. Hence, Old Cloth market of city developed along the Tilak Path. On current scenario main cloth market is present on this route. Susidery market such as Saraf Bazar, Bandi Bazar developed on the Sub Artirial road which connects to Tilak path.

Furthermore, Aurangabad city is divided into three Government organizations. These are Municipal Corporation, City and Industrial Development Corporation (CIDCO) and the Maharashtra Industrial Development Corporation (MIDC). The transportation network has wide coverage, which covers 142.789 km^2.

The transportation through roads again divides into:

A. Public Transportation

Aurangabad City is mainly dependent on Bus and Auto for public transportation. Aurangabad Municipal Corporation is the Prime planning Organization for the city, consisting of six zones with a population of approximately 11, 71,260 as per census 2011. The present public and private transport system has various drawbacks which directly affect the traffic, ease of traffic and transport system. Population growth of the city from 1991-2011 has been tabulated here.

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In recent years, there is tremendous increase in the population of Aurangabad city, which indirectly affects the transportation system. According to Regional Transport Office, Aurangabad, there are 5000 two wheelers, 165 four wheelers is passed out per month, whereas 60 to 65 three wheeler auto for transportation purpose are registered in the city.[3]

The Transportation system of the Aurangabad city requires much more improvement, as the passenger either has to wait for a long time at the bus stop or walk along and face huge traffic. There are 35 routes defined in Aurangabad city for the fulfillment of public transportation in the city which gives rise daily income of about 1 Lac 12 thousand to the Municipality.

Source: Monali Baviskar, "Development of GIS database and Web application for Aurangabad Tourism", IOSR Journal of Computer Engineering Vol 19, Issue 5.

B. Private Transportation

This mode of transportation is increasing day by day in Aurangabad city. There are various issues which cause tremendous rise in the private transportation, which mainly point out the drawback of public transportation system.

For a speedy growth of town, an awesome community of roads is essential. It is the idea of the lifestyles of the metropolis. The importance of the town depends especially at the techniques of communication. As parks, gardens, open spaces are the 'lungs', so additionally roads are the 'arteries' of the metropolis.

The road or road plan is considered as the muse of the town plan. In urban planning, transportation network plays an important role to make better decisions the provisions of infrastructure facilities. A smart city is an urban improvement vision geared toward integrating a couple of practical solutions with respect to infrastructure facilities and offerings to the citizens and also for green management of a city's property.

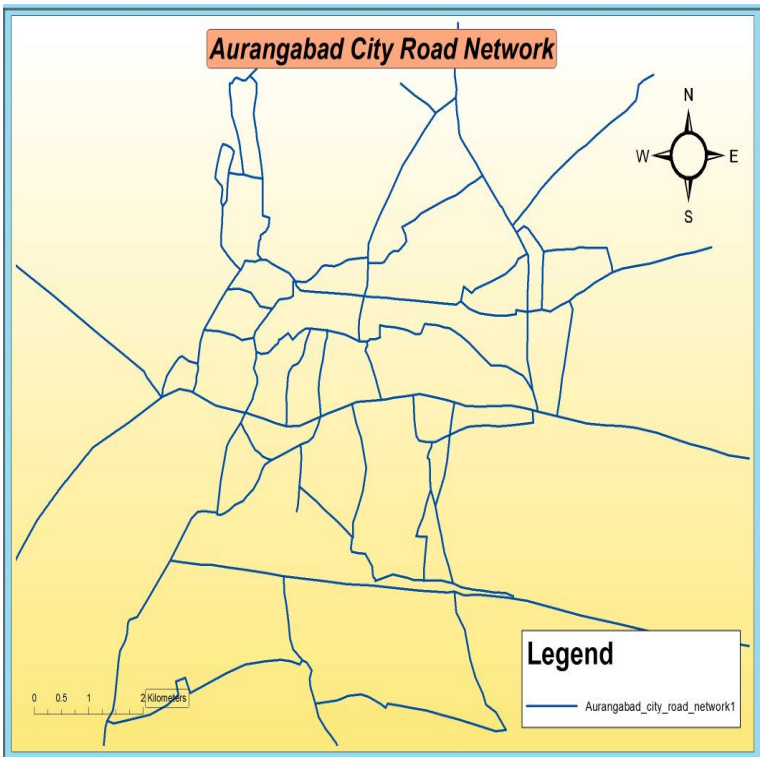
The intention of constructing a smart town is to enhance nice of existence via the usage of urban informatics and generation to improve the efficiency of provider shipping and meet citizens' desires. Four essential components of a smart city are Aurangabad is one of the proposed smart cities by Maharashtra government. [3]

Roads are the main streamline of the city. Now a day's city growing faster if the road network is suitable. Today the most developed and densely populated cities are growing faster due to highly improved road networks. This result into development of new roads for the city and then city started to grow along that new road. Here we will take the example of the city and discussed the development of the city along the old and new roads.



Source: lokmat times

Source: Monali Baviskar, "Development of GIS database and Web application for Aurangabad Tourism", IOSR Journal of Computer Engineering Vol 19, Issue 5.



Source: semanticscholar.org

On 25th December 2015 at a public meeting in Aurangabad, Road and Transportation Minister Mr. Nitin Gadkriji introduced a street works bundle for the Marathwada vicinity worth several thousand crores. It became a dream come real for maximum, people celebrated, expectancies had been raised and people waited with bated breath, in anticipation. [6]

The projects announced included, widening and relaying of crucial highways which pass through Aurangabad city namely Jalna road and Beed Bypass. These may be part of national highway network but over the years have become arterial roads of Aurangabad city. The need for investment in these city roads were felt for long, but were ignored by previous dispensation.

Package for road development announced by road and transport minister Mr. Nitin Gadkari. The package was way above the expectations of common citizens of Aurangabad. It was beyond anyone's imagination that Government of India could shower the backward region of Marathwada with infra projects worth thousands of crores. At last, the road infrastructure of Aurangabad was being done in a manner that was befitting its status as the Tourism Capital of Maharashtra. We all felt grateful to Gadkriji for announcing the package. [7]

hattp:// www. Aurangabadlive.in

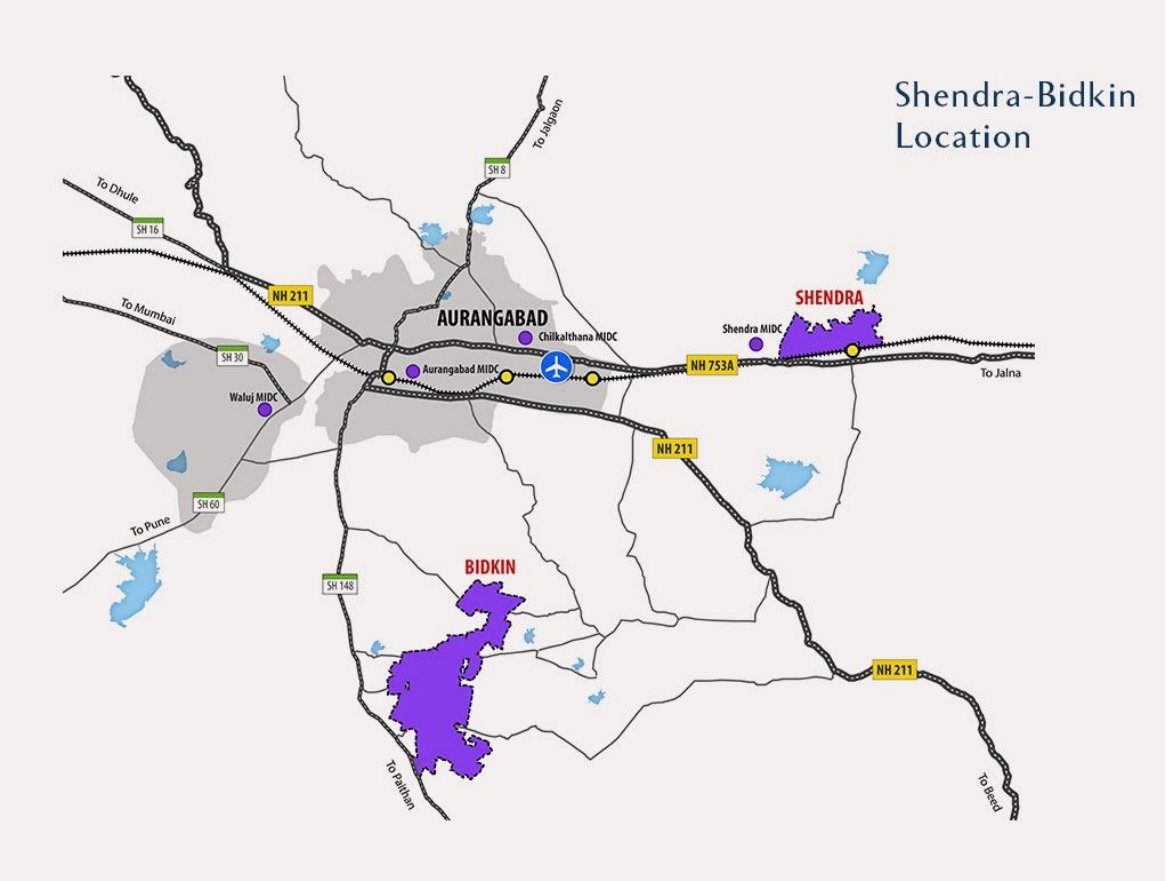
https://docslib.org/doc/6709514/aurangabad-district-disaster-management-plan-2016-17

The crucial road works included

1) Relaying and renovation of Jalna road with provision for bus transport system and service lanes.
2) Relaying and renovation of Beed Bypass with service lanes.
3) Construction of flyovers, underpass and pedestrian bridges at suitable places on the above mentioned highways.
4) Converting Paithan road into National Highway and 4/6 laning it.
5) A New highway connecting Shendra with Bidkin and Waluj (Bharatmala scheme).
6) Other highway works announced included Aurangabad – Ajanta – Jalgaon, Aurangabad – Nashik, Aurangabad – Shirdi etc. Gadkariji, at a later date, has hinted about Aurangabad – Pune Expressway as well

The above list is indicative and not exhaustive; many more road projects were announced by the National Highway Authority of India concurrently.

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Source: Auric.com

The present status: One and half years have passed since the announcement, and most of the projects have not moved beyond DPR stage. Contracts for new works are yet to be awarded and projects yet to take off. The wait has been agonizing to mention the least. Like with any other project announced for Marathwada, things are moving at snail's pace. It seems, the projects have fallen victim to red tapism and bureaucratic squabbling. [8]

We therefore request the Hon'ble Minister Shri Nitin Gadkriji to look into the matter and rescue Aurangabadkars from the daily pain and suffering which he/she undergoes while commuting on these roads. Gadkriji can be a Messiah for the region's development if he gets the road infrastructure right. Hope, on his upcoming visit to the city, he sets into motion the process, which will culminate into commencement of work on most of the projects announced so far. Hurdles, if any, should be sorted out immediately and bureaucrats instructed to clear projects rapidly. [8]

Obstructionist attitude at local level should be dealt with firmly and officers be given a free hand to get the work started at ground level. Hope the upcoming visit of Mr. Gadkri to Aurangabad provides the required flip to road works and sets in motion the process, which can bring the road infrastructure of Marathwada at par, if not surpass the best in the world.

Sr. No.	Categories	length in KM
1	National Highway (NH)	143.20kms
2	Major state Highway (MSH)	278.10kms
3	State Highway (SH)	1193.93kms
4	Major District Road	2354.75kms
5	Other District Road	1269.47kms
6	Rural (Village) Road	4706.016kms
Total length		9945.46kms

Source: District socio-economic review, Aurangabad district- 2014.

In the study area the end of March 2014 there is a good Transport Network of black topped surfaced roads. The Total length of the road is 9945.46Kms including corporation areas out of which 143.20kms National Highway and 1193.93kms state Highway & 278.10kms. Major state Highway & 2354.75kms major district roads, 1269.47kms other District roads, besides these 4706.01kms are village road.of which 6293.06kms are tar road & 3063.72kms road. It means for every 100 sq.kms 98 kms road available in the district.

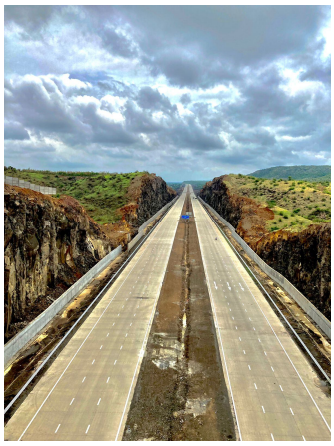
https://www.semanticscholar.org/paper/Mapping-and-Analysis-of-Accident-Black-Spot-in-City-Raut-Nalawade/c9d9911e6974c7d2de52ab7487b75d88589e8a09

Take a look at vicinity, some state highways& major district roads ought to skip via "Ghats" or hill roads. These Ghats one on Aurangabad Jalgaon road near Daultabad village and one on Aurangabad Mumbai road near Daultabad village are having considerable elevations & have many sharp turns which then dangerous for smooth traffic, Moreover the road width is narrow and there are many sharp turns with steep gradients. Many injuries have taken vicinity in these ghats in the beyond. A number of rivers glide thru the district, requiring creation of bridges over the roads. There are all 491 bridges in the observe place. There is total length of the roads in the study area is 9945.46km. Out of this length, Maximum road length of 2010.03 km is in Aurangabad taluka& the lowest road length of 441.01 km is in the Khultabad taluka. [7]

As per above table, In Aurangabad district, the maximum length in the road is 2354.75 km of the major district road and the lowest roadway of 143.20 km is of National highway. This is roadway connected by other District & others state. National highway No-211 (Dhule-Aurangabad-Solapur) Passes through the kannad, khultabad, & Aurangabad Talukas in the study area[2].

The major District road these are important road within a District, serving areas of Agriculture, marketing, education, health and connecting these with each other or with the main highway. This District is a connected by Roads to Pune, Jalgaon, Mumbai, Nagpur, Solapur, Nashik & Dhule through state highway transport Network.





https://docslib.org/doc/6709514/aurangabad-district-disaster-management-plan-2016-17

III. CONCLUSION

1) A good transport Network system is available in study area, which includes roads, Railway line, or Air transport network system.
2) The study area is Delhi, Mumbai, Nagpur, and Hyderabad Cities are connected to road, railway and the air route.
3) In Study area the total Length of the road is 9945.46kms.
4) In Study area is Maximum road length of 2010.03 kms in Aurangabad taluka& lowest of 441.01 kms roadway length in Khultabad Taluka.
5) In Study area, the maximum length in the road is 2354.75 kms of the major district roads and the lowest road of 143.20 kms is of National highway.
6) The National highway NH211 byroad passes through Kannad, Khulatabad& Aurangabad cities in the study area.
7) The important the Major District road in the study area, which provides services in agricultural market, Education, commerce, Industrial and health sector. This roadway is connected to the main state highway via the road route of the District.
8) The study area is connected to the state highway transport network to the Pune, Mumbai, Nagpur, Nasik and Dhulee cities.
9) The Length of broad rail Line in the study area is only 102 kms.

10) The Aurangabad airport offers passenger services airlines such as air India, Jet Airways.

11) Due to impact of geographical Factors in the study area, some highways and major district roads pass through the bridge constructed over "Ghat" or hill and rivers.

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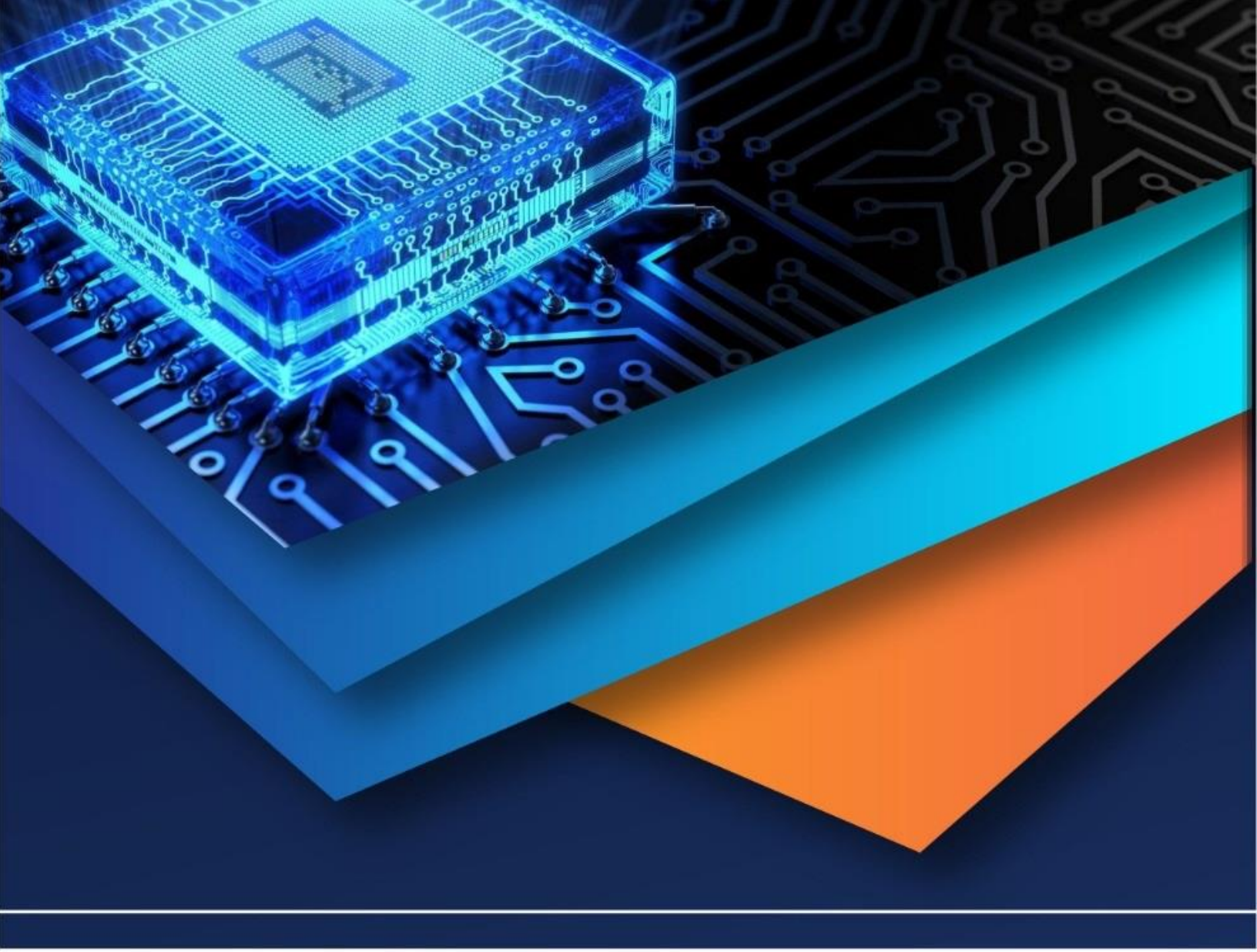
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