

# Technical Education Leads to More Employments Using NFA

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**Abstract**— Education gives knowledge to the persons and technical education carries the technical knowledge of a persons. Employments are one of the essential needs for in human life.in this article we discussed about how technical education leads to more employments in real life situations. First part gives the general information about technical education. Second Part of the paper is concept of the problem. Third part gives the graph and solution by using non deterministic finite automaton (NFA). Final part is deduction based on our study.

**Index Terms**— Technical Education, Employment and NFA.

## I. INTRODUCTION

Technical education, as the term proposes, is different from steady education. Its ambit, as per our rules, primarily involves training and research programmes in sectors like technology engineering, architecture, town planning, pharmacy, art & crafts, hotel management and catering Technology, etc. The government constituted the All India Council for Technical Education (AICTE) in 1947 as a national level top recommended body for conducting a survey on the facilities available for technical education in the country. The purpose was to endorse growth of technical education in a coordinated and integrated way. The government framed the National Policy of Education in 1986. In keeping with the policy, AICTE was conferred with the statutory authority for planning, formulating and upholding the norms and standards for technical education in the country.

The economic development of a country is powerfully linked with Quality Education with values for all. It is therefore, essential for our technical education to assume periodic appraisal of the programme and subject content of the technical programmes to safeguard that they are up to date not unfashionable or outdated and successfully fulfil the technological necessities of the country.

## II. CONCEPT OF THE PROBLEMS

Let us analysis the solution “jobs (both government & private) “by using graph and automata theory. Let  $v_1, v_2, v_3, v_4, v_5, v_6, \dots, v_{10}$  be the vertices designates the different area in technical education. Vertex  $v_{11}$  indicates

jobs. If you have the technical education background you can go to the following programme

### 2.1. Agriculture, Food & Natural Resources

Agriculture, food, and natural resources workers produce agricultural goods. This includes food, plants, animals, fabrics, wood, and crops. You might work on a farm, ranch, dairy, orchard, greenhouse, or plant nursery. Pupils could also work in a clinic or laboratory as a Scientist or Engineer. Some agriculture, food, and natural resources workers market, sell, or finance agricultural goods. For example, market products made from plants and animals. Or, sell and services that farmers and ranchers use to improve products. We could also work to conserve natural resources or protect the environment.

**Careers:** Pupils in agriculture, food and natural resources learn and practice services that prepare them for varied post-high school education and training opportunities, from traineeships and two-year College programs to four-year College and graduate programs are there. CTE classes in this group will introduce you to a variety of interesting careers including:

Agriculture bankers	USDA Graders
Commodity traders	USDA Inspectors
Plant pathologists	Meat processors
Agronomists	Wholesale food purchasers
ARS Scientists	Irrigation specialists
Agriculture mechanics	Horticulture specialists
Ranchers	Landscapers
Farmers	Turf managers
Production supervisors	Agriculture education teachers
Natural resource specialists	Forest geneticists
Biochemists	Extension specialists

### 2.2. Architecture & Construction

The U.S. Bureau of Labour Statistics (BLS) indicated that employment opportunities for architects, except landscape and naval ones, are expected to increase 17% from 2012-2022. The growing U.S. population and need for infrastructure repairs were two factors that were responsible

for the projected growth. The BLS stated that some growth may be hampered by outsourcing or economic downturns.

Architecture and construction careers include a full spectrum of jobs in design, engineering, physical labour, planning, management, and drafting. Jobs in design include architects, structural engineers, and infrastructure design planners. Jobs in structural building and repair include mechanical and infrastructure engineers, draftsmen, and construction labourers.

### 2.3. Technology & Communications

The Information and Communication Technology (ICT) Industry is one of the wildest growing and altering fields. Technology is developing quickly and new devices and systems are constantly being created to provide faster and well-organized methods for information and communication technology. Careers in the ICT field are in high demand and the industry is expected to grow. Professionals in ICT careers may work in commercial service sectors and ICT companies.

### 2.4. Hospitality & Tourism

According to the World Travel and Tourism Council, travel and tourism accounts for 8% of the world's jobs and has the highest potential for growth of any industry. International travel alone accounts for more than 840 million tourists annually. The economic, social and environmental impact of tourism is significant and vital to creating sustainable jobs and quality of life. For example

Tourism and Hospitality are major players in Ireland efforts to move beyond what has been a difficult economic situation. However, recovery is underway and certain areas are already showing signs of skills shortages. Earlier this year, the Government launched a 10-year strategy to create 50,000 new jobs in the tourism industry by 2025, bringing the total number working in the tourism industry in Ireland to 250,000.

### 2.5. Information Technology

Information technology and computer science are rapidly growing fields. A smart professional can take advantage of the many new positions that are becoming available as computers are varying every industry. There are many different chances and positions available in the field of technology, and a consistent number of degrees and certificates available.

It offers a wide range of degrees and certificates so you can choose which one is best for your particular requirements. Our world has entered the new millennium, which is going to be the Information Technology Age. Computers and Internet (World-Wide Web) have become an integral part of our individual and professional lives; IT Careers have increased immense popularity over the past few years. With the arrival of the PC the information technology industry underwent a quantum change. Today Computers have not only assumed strategic importance in the corporate world, they are being effectively used in other fields ranging from space exploration to food processing and banking to communication etc. The software revolution totally changed the way we work. Availability of cheap and easy to use software packages has increased productivity levels manifold. Probably no sector is untouched by information technology. Manufacturing, Finance, Marketing, Entertainment, Education, Mass Media, Environment, Communication and several other fields are reaping the benefits of IT. In this era of Information Technology, which has revolutionised the whole world, India has stood up to the world standards and is being regarded the world over for its skilled IT Professionals. Though believed

that there would be a slump in the IT field, it continues to grow, and offers job opportunities to people who have the right skills and training. Information Technology occupations touch nearly every field in every part of the country and by that sheer presence itself offer innumerable job openings. The rapid development of technologies such as networking, multi-media and the Internet/WWW have created totally new job groups where none existed a few years ago. This sector is also the one that is witnessing the fastest growth and change rate. New software and techniques come out every month and professionals have to keep pace with the rapid advancements.

To become a part of the IT sector, you can choose from a collection of paths. However, it is good to have overall and specific skills along with formal training in IT related subjects. A certification or a Bachelor's degree will ensure you find the correct niche for yourself in this sector. Certain personal potentials, like problem-solving capabilities, attention to detail and logical outlook are important if your choice is an IT Career. A strong foundation in Mathematics during High School is also an added asset for jobs in the IT industry.

### 2.6. Manufacturing & Marketing

Many manufacturing companies employ manufacturing systems engineers, though the actual job title varies contingent on the company. In very small companies, which are often privately possessed, the job may be combined with other functions.

Marketing communication coordinator positions are available in just about every industry from non-profit healthcare to entertainment conglomerates. The position may become a stepping stone to higher-level careers, including marketing communications specialist, marketing manager, and marketing director.

Marketing managers are expected to see 13% job growth from 2012 to 2022, according to the U.S. Bureau of Labour Statistics (BLS). The BLS also notes that competition to attain entry-level positions will remain especially strong.

### 2.7. Transportation, Distribution & Logistics

It is vital role in tourism and the list of jobs are available for those who are interested in transportation, distribution and logistics are administrative service managers, Aerospace Engineering technicians, Air Traffic controllers, Aircraft Cargo Handling Supervisor, Aircraft mechanic and service technicians, Aircraft structure and system assemblers, Airfield operations specialists, Airline Pilots, Ambulance Drivers and Attendants, Automotive Body Repairers, Automotive Glass Installers and Repairers, Automotive service technicians and Mechanics, Automotive and Watercraft Service Attendants, Avionic Technicians, Bicycle Repairers, Billing and Posting Clerk, Boilermakers, Bridge and lock Tenders, Bus and Truck Mechanics, Captains, Mates and pilots of water vessels, Cargo and Freight Agents, Chief Executives, Commercial drivers, Commercial Pilots, Crane and tower operators, Customs Brokers, Dispatchers, Electrical and Electronic Installers and Repairers of Transportation Equipment Engine and other Machine Assemblers, Excavating and loading Machine Operators, Flight Attenders, Freight and Stock Labour, Hand Packers and Packagers, Hoist and winch operators, Industrial Truck and Tractor operator, Light Truck or Delivery Drivers, Locomotive Engineers, Logisticians, Mobile Heavy

Equipment's Mechanics ,Motor Vehicles Electronic Equipment Installers and Repairers, Motorboat Mechanics and operators, Motorcycle Mechanics ,etc.

**2.8. Applied arts and crafts**

Design and applied arts is a concentration within the visual arts field that includes such areas as advertising, commercial design, commercial photography, fashion design, graphic design, illustration and drawing, interior decorating and many more. Generally speaking, design and applied arts can be described as arts in which objects are designed or created in order to be used rather than simply to be viewed. Potential careers include working as an artist, teacher, researcher, museum curator or art director. Depending on a student's concentration, job titles could also include painter, designer, stylist or writer.

If you wish to pursue a degree and career in design and applied arts, then you should explore all possible options. A great place to start is with the resources available through Study.com.

According to the U.S. Bureau of Labour Statistics (BLS), jobs for craft and fine artists were predicted to increase 3% from 2012-2022, which is slower than average .Competition for careers can be intense, since there are far more qualified artists than available job opportunities. In May 2013, the mean annual wage for craft artists, including potters, weavers and welders, was \$36,600, per the BLS. At the same time, fine artists, such as painters, illustrators and sculptors, earned a mean annual wage of \$50,900, and multimedia artists and animators earned a mean annual wage of \$72,400 (BLS).

**2.9. Technical Education and Training**

Directorate of Training and Technical Education is entrusted with the responsibility of providing trained technical manpower for the technological up gradation of industrial production, services, productivity and innovation, contributing to the planned growth of the country's economy. With a view to achieving the above objective, Department strives for systematic planning, development, implementation, monitoring and evaluation of programmes and policies relating to technical education. With the stress on the planned and systematic expansion for appropriate industrial growth of the National Capital Territory of Delhi, particularly in the context of globalisation and liberalization of economy, this Department has made significant strides in the field of technical education.

**2.10. Astrology & planet.**

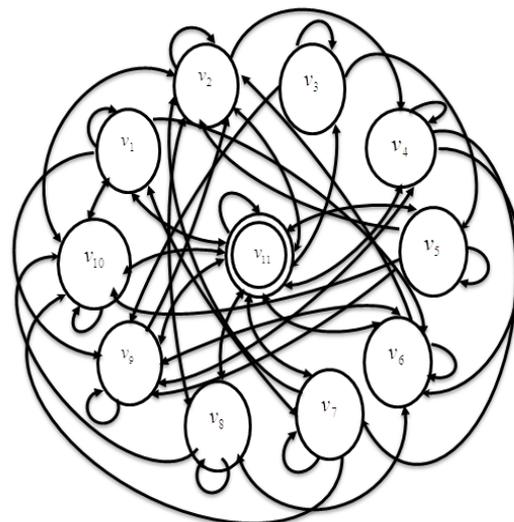
Job astrology deals with employment analysis of the Zodiac nativities. *Indian astrology* will be focusing here the planets responsible for employment of different Zodiac Sun signs. The tenth house in a horoscope denotes employment for any Zodiac nativity. Moreover, any house out of twelve can play the role of tenth house for a particular nativity. Thus, any planet can play the role of the same. This is seen that people, when go through the phase of tenth house in their personal horoscope get assignment. But, any planet can offer employment opportunity, provided it is being influenced by the planet responsible for functioning of the tenth house of a horoscope. Therefore, while judging a horoscope to find out job opportunity for a person, each and every planet has to be scrutinized with their physical position, angular position; occupying position of Zodiac as well as its aspects has to judge very meticulously. Please note that, position of tenth

lord in the ninth house enhances international placement in some foreign land for the irrespective class of Zodiac nativity. Free online *job astrology* of the Zodiac Sun signs derived from *Vedic astrology* is furnished below.

III. SOLUTION

**3.1 Relation matrix**

If there is relation between two vertexes, experts give one {1} for the relation. Otherwise zero {0}. We connect the adjacent points. The following relations matrix is

$$J = \begin{matrix} & \begin{matrix} v_1 & v_2 & v_3 & v_4 & v_5 & v_6 & v_7 & v_8 & v_9 & v_{10} & v_{11} \end{matrix} \\ \begin{matrix} v_1 \\ v_2 \\ v_3 \\ v_4 \\ v_5 \\ v_6 \\ v_7 \\ v_8 \\ v_9 \\ v_{10} \\ v_{11} \end{matrix} & \begin{bmatrix} 1 & 0 & 0 & 0 & 0 & 1 & 1 & 0 & 1 & 1 & 1 \\ 0 & 1 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 1 & 0 & 1 & 0 & 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 & 1 & 1 & 0 & 1 & 0 & 1 \\ 0 & 1 & 0 & 0 & 1 & 0 & 0 & 0 & 1 & 1 & 1 \\ 0 & 1 & 0 & 0 & 0 & 1 & 0 & 1 & 1 & 0 & 1 \\ 1 & 1 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 1 & 1 \\ 0 & 1 & 0 & 0 & 0 & 1 & 0 & 1 & 0 & 1 & 1 \\ 0 & 1 & 0 & 1 & 0 & 1 & 0 & 0 & 1 & 0 & 1 \\ 1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 1 \\ 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \end{bmatrix} \end{matrix}$$


Pic: 3.1 Graphical diagrams for relation matrix

**3.2 A nondeterministic finite automaton (NFA)**

An NFA is represented formally by a 5 tuple  $J = \{Q, \Sigma, \delta, v_1, F\}$  consisting of a finite set of states Q, a finite set of input symbol  $\Sigma$ , a transition function  $\Delta : Q \times \Sigma \rightarrow P(Q)$ .an initial (or start) state  $q_0 \in Q$ , a set of states F distinguished as accepting (or final) states  $F \subseteq Q$ .

$$J = \{Q, \Sigma, \delta, v_1, F\}$$

$$Q = \{v_1, v_2, v_3, v_4, v_5, v_6, v_7, v_8, v_9, v_{10}, v_{11}\}$$

$$\Sigma = \{0, 1\}$$

$$F = v_{11}$$

**3.3 Production Rule:**

	{0}	{1}
$v_1$	$\left\{ v_2, v_3, v_4, v_5, v_8 \right\}$	$\left\{ v_1, v_6, v_7, v_9, v_{10}, v_{11} \right\}$
$v_2$	$\left\{ v_1, v_3, v_5, v_6, v_7, v_8, v_9 \right\}$	$\left\{ v_2, v_4, v_{10}, v_{11} \right\}$
$v_3$	$\left\{ v_1, v_2, v_4, v_6, v_7, v_8, v_{10} \right\}$	$\left\{ v_3, v_5, v_9, v_{11} \right\}$
$v_4$	$\left\{ v_1, v_2, v_3, v_5, v_8, v_{10} \right\}$	$\left\{ v_4, v_6, v_7, v_9, v_{11} \right\}$
$v_5$	$\left\{ v_1, v_3, v_4, v_6, v_7, v_8 \right\}$	$\left\{ v_2, v_5, v_9, v_{10}, v_{11} \right\}$
$v_6$	$\left\{ v_1, v_3, v_4, v_5, v_7, v_{10} \right\}$	$\left\{ v_2, v_6, v_8, v_9, v_{11} \right\}$
$v_7$	$\left\{ v_3, v_4, v_5, v_6, v_8, v_9 \right\}$	$\left\{ v_1, v_2, v_7, v_{10}, v_{11} \right\}$
$v_8$	$\left\{ v_1, v_3, v_4, v_5, v_7, v_9 \right\}$	$\left\{ v_2, v_6, v_8, v_{10}, v_{11} \right\}$
$v_9$	$\left\{ v_1, v_3, v_5, v_7, v_8, v_{10} \right\}$	$\left\{ v_2, v_4, v_6, v_9, v_{11} \right\}$
$v_{10}$	$\left\{ v_3, v_4, v_5, v_6, v_7, v_8, v_9 \right\}$	$\left\{ v_1, v_2, v_{10}, v_{11} \right\}$
$v_{11}$		$\left\{ v_1, v_2, v_3, v_4, v_5, v_6, v_7, v_8, v_9, v_{10}, v_{11} \right\}$

development of technology provides better knowledge and life settlement for job seekers. Technical educations play a vital role in the development of employability in modern context.

“One machine can do the work of fifty ordinary men. No machine can do the work of one extraordinary man” - Elbert Hubbard.

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3.4. Illustration:

$$\begin{aligned} & \delta(v_1, 0011) \\ &= \delta(v_2, 011) \cup \delta(v_3, 011) \cup \delta(v_4, 011) \\ & \quad \cup \delta(v_5, 011) \cup \delta(v_8, 011) \\ &= \delta(v_1, 11) \cup \delta(v_6, 11) \cup \delta(v_7, 11) \\ & \quad \cup \delta(v_9, 11) \cup \delta(v_{10}, 11) \cup \delta(v_{11}, 11) \\ &= \delta(v_1, 1) \cup \delta(v_6, 1) \cup \delta(v_7, 1) \\ & \quad \cup \delta(v_9, 1) \cup \delta(v_{10}, 1) \cup \delta(v_{11}, 1) \\ &= \{v_1, v_6, \dots, v_{11}\} \varepsilon F \end{aligned}$$

IV. CONCLUSION

In this paper we conclude that one who completes the technical education courses will get more job opportunities in both government and private sectors. The main aim of jobs acquired through the indirect idea by automata. The