



University of Jeddah

College of Computer Science and Engineering

Department of Computer Science and Artificial Intelligence

Fundamentals of AI | CCAI-221



Careers Recommendation Decision System

Prepared for: Mini Project (1) Fundamentals of AI – CCAI 221

Introduction

Determining your career path is a crucial step in having a successful career, but some individuals may find it difficult to choose the best career for them. It can also take some time to locate a job that fits the desired role. By using the Myers-Briggs Type Indicator, you may be able to identify the best career alternatives for you.

Problem Definition

According to Inc., 70% of workers stated that they were dissatisfied with their career choices. Since the majority of individuals work 8 to 10 hours a day, finding a career path that is right for you is essential, and choosing a professional path might be difficult, whether you are just starting out in the job or thinking about changing it. On the contrary, it is occasionally challenging to find a job or your ideal position since some organizations only hire internally, and it is difficult to locate job offers that a company publicly posts online.

AI approach

Nowadays, artificial intelligence is one of the trendiest technologies that has helped facilitate many aspects of human life by using one of its most common approaches called "Expert Systems." Which is a computer program that simulates the judgment of a human expert. In order to handle complicated issues, expert systems use areas of knowledge.

Due to several factors, Prolog is ideally suited for developing expert systems. Prolog itself can be viewed as a straightforward theorem prover or inference engine that draws conclusions from established rules. Utilizing Prolog's built-in search and backtracking algorithms allows for the implementation of very basic expert systems.

Solution

creating an expert system with Prolog that selects the ideal career for each MBTI personality type. In addition, the expert system will offer a job link to make the job-searching process easier.



Theoretical Background

The Myers-Briggs Type Indicator consists of 16 personalities. Each personality based on the test has several career options, a detailed description of each personality type and their job correspondence are emphasized in the following discussion:

- **ESFJ**
This personality is typically known as the “The consul” which in fact is a person who possesses the Extraverted, Observant, Feeling, and Judging personality qualities. Consuls typically favor teamwork, especially when it involves positions that require them to consider others' welfare. The ESFJ personality type is best suited for jobs as a social worker, nurse or healthcare professional, sales representative, or in public relations.
- **ESTJ**
The ESTJ personality type frequently looks for leadership positions or other positions that demand them to make crucial decisions. A lawyer, project manager, pharmacist, or insurance agent are ideal professions for them
- **ESFP**
Individuals who identify as ESFPs often favor jobs that allow them to engage with others on a daily basis. The primary care physician, interior designer, actress/actor, or child welfare counselor are a few ideal employment options for the ESFP type.
- **ENTP**
This personality type embraces a challenge and prefers to take chances. People who classified as ENTPs on the exam love to defy expectations and are tenacious in their pursuit of their objectives. They would be excellent candidates for positions like marketing director, politician, creative director, or business owner.
- **ESTP**
Individuals classified as ESTP yearns for adventure and performs at their best under pressure. They favor challenging jobs where they may use their ingenuity, such that of a detective, financier, sports coach, or entertainment agent.
- **ENTJ**
This group prefers to plan, think clearly, and approach problems analytically. Their preferred types of jobs are those where they can maximize efficiency and establish order, and their finest career options include those in law, business, management, and venture capital.
- **ENFP**
This personality type enjoys being imaginative and being open-minded. They favor careers like journalism, creative direction, event planning, or consulting where they can express themselves while interacting with others.



- **ENFJ**
This group enjoys interacting with others, has a high level of energy, and favors jobs that need teamwork. Sales manager, HR specialist, advertising executive, and public relations professional are some employment options for persons who received the ENFJ assessment.
- **INTP**
When solving tasks that call for accuracy and some innovation, this personality type prefers to work alone. Programmers, software engineers, architects, and college professors are all ideal job options.
- **ISTP**
ISTP favors employment in positions requiring technical proficiency. Suitable employment options for those with the ISTP personality type, who prefer to take action, include pilot, emergency department physician, data communications analyst, or civil engineer.
- **ISTJ**
These individuals are committed to their duties and perform best in jobs that demonstrate their devotion to others. Accountant, government employee, auditor, and CFO are all possible careers
- **ISFJ**
This personality appreciates being of service to others and prefers to work in occupations that allow them to do so, such as those of a librarian, dentist, primary school teacher, or customer service agent.
- **INTJ**
They are typically known as Perfectionists, INTJs favor jobs that don't need a lot of interpersonal interaction. Software developer, executive, personal finance counselor, or investment banker are some ideal employment options for someone with this personality type.
- **ISFP**
To assist others, this personality type makes use of their empathy and compassion. They are most effective as physical therapists, massage therapists, fashion designers, or landscape architects.
- **INFP**
This group thinks very deeply. In occupations like graphic design, psychology, writing, or physical therapy, they like putting their compassion and versatility to use.
- **INFJ**
Individuals who were classified as INFJs on the Myers-Briggs personality test are often innovative and driven by their morals and principles. This personality type would do well as a social worker, customer service manager, or school counselor.



Facts and predicate logic

- **Facts:**

ISFJ is a personality

$$P(x) \rightarrow x \text{ is a personality}$$

Jeddah\Riyadh are geographical preference

$G(Y) \rightarrow y$ is a location.

careers(x,y) → company that suitable for x personality of y location

Career link 'https://careers.alrajhibank.com.sa/' of accountant career implies that the person's geographical preference is Al-Riyadh and his personality type is ISFJ.

- **predicate logic:**


$$\forall x: \text{careers } (x,y) \rightarrow P(x) \wedge G(y)$$

Factor Table

Jobs	Personalities	Location	Companies to apply
Accountant	ISFJ	Riyadh	https://careers.alrajhibank.com.sa/
Art director	ENFJ	Riyadh	https://riyadhart.sa/en/
Artist	INFP	Riyadh	https://riyadhart.sa/en/
Attorney	ENTP	Riyadh	https://ha-law.sa/en
Bank teller	ISFJ	Riyadh	https://careers.alrajhibank.com.sa/
Bookkeeper	ISFP	Riyadh	https://www.jarir.com/sa-en/about-jarir/job-opportunities
Business administrator	ENTJ	Riyadh	http://www.sadabc.com/
Business analyst	ISTJ	Riyadh	https://datainsight.com.sa/home/
Certified public accountant	ISTJ	Riyadh	https://www.alahli.com/en-us/about-us/Careeralahli/pages/default.aspx
Coach	ESTJ	Riyadh	https://arkansport.com.sa/
Composer	INTP	Riyadh	https://musichubs.moc.gov.sa/en/about
Construction worker	ISTP	Riyadh	https://www.saudibauer.com/en/
Copywriter	INFP,ENTP	Riyadh	https://digitect.com/
Counselor	INFJ	Riyadh	http://albayan-sa.com/
Creative director	ESTP	Riyadh	https://rightclick.com.sa/
Dentist	ISTJ	Riyadh	https://www.gamadentalclinic.com/
Editor	ENFP	Riyadh	https://dicema.com/
Engineer	ISTP	Riyadh	http://www.adeng.com.sa/
Event planner	ESFP	Riyadh	https://aplus.events/
Financial	INTJ,ENTP,ESTJ,ISFJ	Riyadh	https://careers.alrajhibank.com.sa/
Firefighter	ESTP	Riyadh	There's no available jobs .
Forensic scientist	ISTP	Riyadh	https://www.aramco.com/en/careers
Guidance counselor	ENFJ	Riyadh	https://marifi-center.com/
Hotel manager	ESTJ	Riyadh	https://explorehotels.hilton.com/?locale=en_ar&location=24.7135517,%2046.6752957&radius=30&title=Riyadh,%20Saudi%20Arabia
HR manager	ENFJ,INFP	Riyadh	https://www.foodics.com/careers/
Librarian	INFJ	Riyadh	https://www.jarir.com/sa-en/about-jarir/job-opportunities
Managing editor	INTJ	Jeddah	https://www.koraspond.com/
Marketing manager	INTJ	Riyadh	https://www.ways-sa.com/
Mechanical engineer	ENTJ	Jeddah	https://www.dartec.com.sa/
Mental health professional	INFP	Jeddah	https://lactcare.com.sa/jobs/
Office manager	ESFJ	Jeddah	https://careers.alrajhibank.com.sa/
Optician	ISFP	Jeddah	https://www.magrabi.com.sa/hospital/magrabi-eye-dental-ear-hospital-jeddah/
Paramedic	ESTP	Jeddah	https://drfakeehosp.taleo.net/careersection/dsfh/joblist.ftl?lang=en
Photographer	INTJ	Jeddah	https://www.iphotographer.sa.com/
Physical therapist	INTJ,INFP	Jeddah	https://www.ipcjeddah.com/
Product manager	ENFP	Jeddah	https://www.jarir.com/sa-en/about-jarir/job-opportunities
Professor	INTP	Jeddah	https://www.dah.edu.sa/en/careers/Pages/default.aspx
Project coordinator	ESTP	Jeddah	https://digitect.com/
Psychologist	INFJ,ESFJ,ENTP	Jeddah	https://lactcare.com.sa/jobs/
Public relations specialist	ENTJ,ENFP	Jeddah	https://en-global-jobs.about.ikea.com/location/jeddah-mecca-region-saudi-arabia-jobs/22908/102358-104514-105343/4
Research analyst	ISFJ	Jeddah	https://careers.kaust.edu.sa/
Sales manager	ENFJ,ESFP	Jeddah	https://jobs.careem.com/
Scientist	INFJ	Jeddah	https://careers.kaust.edu.sa/
Social media manager	ISFP	Jeddah	https://www.digitalbridgesa.com/
Supply chain manager	ISTJ	Jeddah	https://www.aramex.com/us/en/careers-details/career-opportunities
Teacher	INTJ	Jeddah	https://djis.edu.sa/
Technician	ESFJ,ISTP	Jeddah	http://www.few.tv/
Veterinarian	ISFP	Jeddah	https://mypetsa.com/
Writer	INFJ,INTP	Jeddah	https://www.digitalbridgesa.com/

Queries



 suggestCareer.

Welcome to our Careers Recommendation Decision System

What is your personality type?:

intj

What is your geographical preference:

jeddah


The suitable career for you is : counselor

According to your location, this is a suggested company that you can apply to :

<http://albayan-sa.com/>

true

Examples History Solutions
☐ table results
 Run!

 suggestCareer.

Welcome to our Careers Recommendation Decision System

What is your personality type?:

estp

What is your geographical preference:

jeddah

The suitable career for you is : paramedic

According to your location, this is a suggested company that you can apply to :


<https://drakeehosp.taleo.net/careersection/dsfh/joblist.ftl?lang=en>

true

Examples History Solutions
☐ table results
 Run!

 suggestCareer.

Examples History Solutions
☐ table results
 Run!
 

 suggestCareer.

Welcome to our Careers Recommendation Decision System

What is your personality type?:


What is your geographical preference:

The suitable career for you is : copywriter

According to your location, this is a suggested company that you can apply to :

<https://digitect.com/>

true

 suggestCareer.

Welcome to our Careers Recommendation Decision System

What is your personality type?:

What is your geographical preference:

The suitable career for you is : supplychainmanager

According to your location, this is a suggested company that you can apply to :


<https://www.aramex.com/us/en/careers-details/career-opportunities>

true

?- suggestCareer.

Examples History Solutions

☐ table results

 suggestCareer.

Welcome to our Careers Recommendation Decision System

What is your personality type?:


What is your geographical preference:

The suitable career for you is : bookkeeper

According to your location, this is a suggested company that you can apply to :

<https://www.jarir.com/sa-en/about-jarir/job-opportunities>

true

 suggestCareer.

Welcome to our Careers Recommendation Decision System

What is your personality type?:

What is your geographical preference:

Sorry, we can not find suitable career location for your location :(.


true

?- suggestCareer.

Examples History Solutions

☐ table results



 suggestCareer.

Welcome to our Careers Recommendation Decision System

What is your personality type?:

istj

What is your geographical preference:

riyadh


The suitable career for you is : businessAnalyst

According to your location, this is a suggested company that you can apply to :

<https://datainsight.com.sa/home/>

true

1

 suggestCareer.

Welcome to our Careers Recommendation Decision System

What is your personality type?:

enfj

What is your geographical preference:

riyadh

The suitable career for you is : artdirector

According to your location, this is a suggested company that you can apply to :

<https://marifi-center.com/>

true

1

?- suggestCareer.

Examples▲History▲Solutions▲

☐ table results

Run!

