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SpCm 212
Section 32
Informative Speech

Title: *Artificial Intelligence in Medicine*

General purpose: To inform

Specific purpose: To inform my audience about what artificial intelligence means and its applications for the medical industry.

Organizational pattern: *Topical*

I. Introduction

- A. **Attention-getter:** “We can only see a short distance ahead, but we can see plenty there that needs to be done.” Alan Turing was one of the founders of computational artificial intelligence and wrote this quote in his 1950 paper titled “Computing Machinery and Intelligence.”
- B. **Audience relation:** Artificial intelligence in medicine is a largely growing field in the health industry and will directly affect anyone who has even just gone in for a check-up at the doctor.
- C. **Credibility statement:** I am a software engineering student pursuing a minor in data science. I have experience building and teaching artificial intelligence systems and enjoy learning more about the subject. **Narration**
- D. **Thesis:** Artificial intelligence being implemented in healthcare may be right around the corner, but first we need to discuss what it means to have AI in medicine.
- E. **Preview:** In this speech I will be discussing how artificial intelligence can help improve the accuracy of medical diagnoses, decrease patient wait times, and its current application in the field.

Transition: *How does artificial intelligence play a role in medical diagnoses?*

II. Body

- A. **Main Point:** Artificial intelligence can be used to increase the accuracy of medical diagnoses.
 - i. Computers use two approaches to diagnosing a patient. **Explanation**
 - 1. Use of flowcharts
 - 2. Use of databases

- ii. The exam all doctors in Britain take, proctored at the Royal College of General Practitioners gave the results of AI outperforming doctors
 - 1. AI with 82%
 - 2. Doctor average is 72%
- iii. Diagnosing TB at high rates
 - 1. AI was able to diagnose TB at 95% accuracy and with 100% specificity
 - 2. 95% accuracy means the diagnosis is 95% accurate while 100% specificity means that for each correctly diagnosed case 100% of the time the computer is able to determine the type of TB.

Definition

Transition: *The use of AI for diagnosing is also appealing because it will lower patient wait times.*

B. Main Point: Patient wait times would be decreased with the ability to artificially automate healthcare.

- i. Low risk patients would receive immediate reassurance
 - 1. AI would be able to determine the severity of a low-risk patient and provide results much quicker than human doctors.
 - 2. I remember many of times where I am at a doctor's office for a "quick" check-up that takes well over an hour. **Narration**
- ii. High risk patients would receive immediate care
 - 1. AI would also be able to determine high-risk patients quicker and allow them to seek the correct treatment faster
 - 2. This could also help reduce the times that a person is dealing with a fatal disease of some sort and is unaware.
- iii. AI would help speed up and filter severity of cases
 - 1. With more correctly and quickly diagnosed patients, AI would be able to sort the patients accordingly

2. This will keep hospitals more organized as the AI will worry about patient filtering

Transition: *Diagnosis precision and lack of wait time is already being used in the field of Radiology.*

C. Main Point 3: Radiology is currently using artificial intelligence quite extensively.

- i. Radiology using computer aided diagnosis is becoming well-known
 1. Computers were initially only used for sorting file systems and presenting images
 2. Computers are now able to help with image processing and predication
- ii. AI helps disprove false positives in radiological diagnoses
 1. Using AI's quick ability to identify negative exams
 2. Doesn't help much with diagnoses a specific case

Transition: *Artificial intelligence in medicine is already proving useful in radiology and is being adapted into most if not all medical fields.*

III. Conclusion

- A. Restate thesis:** The use of Artificial intelligence in medicine is an innovation growing extremely fast, but it is one to be taken with caution.
- B. Review main points:** Whether it's more accurate diagnoses, lower patient wait times, or its already implemented use in radiology, AI has proven its use in the medical field
- C. Final statement:** Finally, I will leave you with another quote by Alan Turing, which gives reason to innovate the medical field, "A very large part of space-time" must be investigated, if reliable results are to be obtained."

Works Cited

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