

1. Brief definitions of error categories you used in your analysis (1-2 sentences per category)
 - a. 'the gold label is correct, and the model is wrong' – **Category-I**

The gold label aligns with the information, but the model makes an incorrect prediction due to contradictory statements found within the text. This discrepancy often arises when the text supports a particular fact but negates it several words before or somewhere else in the paragraph, leading the model to make an inaccurate prediction.

- b. 'Implicit but not explicit' – **Category-II**

Fact is not explicitly mentioned in the provided text, while the provided text indirectly state the fact.

- c. Factual Discrepancy - **Category-III**

This categorization highlights that there is a factual inconsistency between the given fact and the information present in the text. It's not possible for model to predict without understanding the whole context with just bagging approach.

- d. Model is correct, gold label is wrong - **Category-IV**

In this category model is correct based on the given fact and text, but gold label is wrong.

2. Aggregate statistics about the errors you examined: how many errors were of each type?
 - a. False Positive – 12
 - i. Category-I - 9
 - ii. Category-II - 2
 - iii. Category-III- 1
 - b. False Negative - 22
 - i. Category-I - 15
 - ii. Category-II - 5
 - iii. Category-III - 2

Examples (False Positive)

Category I - the gold label is correct, and the model is wrong

Example 1:

(a) the text of the example itself;

Fact : Marianne McAndrew is a singer

Text: [{ 'title': 'Marianne McAndrew', 'text': '<s>Marianne McAndrew Marianne Christine McAndrew is an actress known for her role as Irene Molloy in the film "Hello, Dolly!"</s><s>Career. "Hello, Dolly!" was McAndrew\'s first credited film role.

The role of Irene Molloy was given considerably more attention in the film than in earlier Broadway productions. "Hello, Dolly!" earned McAndrew two Golden Globe nominations in 1969; Golden Globe Award for Best Supporting Actress – Motion Picture and the since discontinued Golden Globe Award for New Star of the Year – Actress, as well as generally good reviews.

She landed a starring (second billed) role in her next film ("The Seven Minutes").

By 1971, she had made appearances in popular TV shows including "Hawaii 5-0", "Mannix", "Cannon" and "Love, American Style"

One notable later film role was her co-starring role in "The Bat People", with her husband Stewart Moss. The film was widely panned, but is still somewhat known today as a "bad film".

"The Bat People" was also her last film released in theaters; she has only worked in television since its release.

Her only other later role of particular note is her role of}},

{'title': 'Marianne McAndrew',

'text': 'Doris Williams in "Growing Up Brady", a TV film about the popular show.

McAndrew, along with everything else related to the film "Hello, Dolly!" experienced something of a resurgence in popularity with the release of "WALL-E", which featured clips from the film, *including a duet with McAndrew's character (but McAndrew did not do her own singing in the film, which some news outlets claimed in articles about "WALL-E")*.

Personal life. McAndrew married actor Stewart Moss in 1968, remaining married until his death in 2017. They starred together in "The Bat People". McAndrew has two brothers.

Awards and honors. "Hello, Dolly!" earned McAndrew two Golden Globe nominations in 1969; Golden Globe Award for Best Supporting Actress – Motion Picture and the since discontinued Golden Globe Award for New Star of the Year – Actress.

References.

(b) the ground truth label; 1 (NS)

(c) your model's predicted label; 0 (S)

(d) the error type you gave it;

Category I - the gold label is correct, and the model is wrong(tokenization error)

(e) 1-3 sentences describing why you think the error type label applies.

This error can be attributed to the tokenization process, in which words are split by space (unigram). However, this approach is not suitable for handling unigrams or bigrams since it fails to account for the contextual information. In this case, the word "not" appears four words before the word "singing," and this context is essential in understanding the sentence correctly.

Example 2:

(a) the text of the example itself;

Fact : Cleveland is in Ohio

Text:

['title': 'Mike Trivisonno', 'text': " **Cleveland's eastern suburbs**. He was married to his high school sweetheart Linda Conforto, who died of lung and brain cancer in 2009, at age 61. The couple have three children, two sons and a daughter, and two grandchildren. On April 1, 2011, Trivisonno married his girlfriend, Tami in Las Vegas. His brother, Gary, a golfer, was also a radio personality on WTAM, hosting a weekly golf show. His son, Michael Jr., owns an upscale restaurant called **Trivs** in suburban **Strongsville, Ohio**. He died unexpectedly on October 28, 2021, at the age of 74. The cause of death is unknown.</s>"],

['title': 'Mike Trivisonno', 'text': '<s>Mike Trivisonno Mike Trivisonno (September 20, 1947 – October 28, 2021) was an American radio broadcaster, known for hosting his own self-titled afternoon talk show **on Cleveland radio station** WTAM AM 1100. He was widely referred to simply as "Triv" by callers and the Cleveland media.</s><s>Career. He was a frequent caller on the "Sportsline" radio show on WTAM AM 1100 (during this period the station was operating under the WWWE call letters). The show was hosted by the acerbic Pete Franklin and dealt with Cleveland sports. Franklin, who would typically cut off most callers, began giving "Mike from Mayfield" some latitude due to knowledgeable commentary, particularly regarding the Cleveland Browns. Franklin began mockingly referring to Trivisonno as "Mr. Know It All," a moniker he would carry into his own radio career. Trivisonno eventually began his own broadcasting career in 1987, working for a time at WNCX, commenting on sports (particularly boxing) and becoming a full-time personality from 1989–1992. He began hosting "Sportsline" on WWWE in 1994. At first, the show aired from 6-11 p.m. The show did well', {'title': 'Mike Trivisonno', 'text': ' in the ratings, even though it was usually up against Cleveland Indians games on WKNR. It did so well, the decision was made to put Trivisonno in afternoon drive-time (under the "Sportsline" banner until 1998; under his own name since) ultimately leaving "Sportsline" to other hosts. Throughout the program\'s history, "The Mike Trivisonno Show" was usually either first or second in ratings in its time slot in the market. His show had been originally dedicated mostly to sports, but over time became a forum for discussing sports, politics, local issues, current events, or whatever else was on Trivisonno\'s mind at the time. He discussed topics (and frequently argued) with listeners who called in to the show and/or with his various producers and sidekicks that worked alongside him. Trivisonno\'s popularity and high ratings led him to be ranked numerous times among "Talkers Magazine\'s" "Heavy Hundred", including most recently in 2015, when he came in at #72. He was also a nominee for the Large Market Personality of the Year Marconi Award in 2010.</s><s>Personal life. **Trivisonno was born in East Cleveland, Ohio, and attended Mayfield High School in'**']

(b) the ground truth label; 1 (NS)

(c) your model's predicted label; 0 (S)

(d) the error type you gave it;

Category III and Category IV - Model is correct, gold label is wrong / 'Implicit but not explicit'

(e) 1-3 sentences describing why you think the error type label applies.

The statement that "Cleveland is in Ohio" is not explicitly mentioned in the provided text. While the text contains information about Cleveland and its surroundings, it does not directly state that Cleveland is located in Ohio. Therefore, based on the given text, it cannot be definitively confirmed whether the statement is true or not. Here mode is correct but given label is not.

Example 3:

(a) the text of the example itself;

Fact : Tusa has been involved in various cultural initiatives.

Text:

[[{'title': 'Vincenzo Tusa', 'text': ' Sicilian Region has dedicated the "Cave Archeology Area of Cusa Vincenzo Tusa".</s><s>Works. - L\'urbanistica di Solunto, 1970 - Anastylosis ad Agrigento Tempio di Eracle e Selinunte Tempio C, 1975 - La scultura in pietra di Selinunte, 1984 - La preistoria in Sicilia, 1987 - Selinunte nella mia vita, 1990 - Segesta, 1991 - Siciliani illustri: Antonino Salinas, 1995 - Sarcofagi romani in Sicilia, 1995 - Il parco archeologico di Selinunte, 2011</s><s>References.</s>'}, {'title': 'Vincenzo Tusa', 'text': '<s>Vincenzo Tusa Vincenzo Tusa (12 July 1920 – 5 March 2009) was an Italian archeologist.</s><s>Biography. After studying in Mistretta, Tusa graduated in Literature in Catania in 1944 and became an assistant in Archeology. In 1947. He was hired by the Superintendency of Antiquities in Bologna and two years later he was transferred to Palermo. In 1963 he assumed the post of Superintendent for the BBCC of western Sicily. Tusa promoted excavations in the archaeological sites of Soluntum, Segesta, Selinunte, Motya, Marsala. In the 60\'s Tusa was the promoter of the "Sicilia Archeologica" magazine. From 1964 to 1991 he was also professor of Punic Antiquities at the Faculty of Letters of the University of Palermo. He was a member of the Accademia dei Lincei in the Moral Sciences class for the Archeology category. His son Sebastiano Tusa, also an archaeologist, was head of the Superintendency for the Sea of the Sicilian Region. His name appears on the list of members of the Masonic lodge P2.</s><s>Acknowledgments. In Tusa the\'']]

(b) the ground truth label; 1 (NS)

(c) your model's predicted label; 0 (S)

(d) the error type you gave it; **Category I and III**

(e) 1-3 sentences describing why you think the error type label applies.

The provided text does not contain explicit information to confirm or refute the fact that "Tusa has been involved in various cultural initiatives."

The text primarily discusses the biography and works of Vincenzo Tusa, an Italian archaeologist, his career, and his role in promoting archaeology in Sicily. It mentions his involvement in excavations in archaeological sites and his role in academia.

Example 4:

(a) the text of the example itself;

Fact: She transitioned to acting.

Text:

{{'title': 'Virginia Valli', 'text': '<s>Virginia Valli Virginia Valli (died September 24, 1968) was an American stage and film actress whose motion picture career started in the silent film era and lasted until the beginning of the sound film era of the 1930s.</s><s>Early life. Born Virginia McSweeney in Chicago, Illinois, she got her acting start in Milwaukee with a stock company. She also did some film work with Essanay Studios in Chicago, starting in 1916.</s><s>Film career. Valli continued to appear in films throughout the 1920s. She was an established star at the Universal studio by the mid-1920s. In 1924 she was the female lead in King Vidor\'s southern gothic "Wild Oranges", a film now recovered from film vault obscurity. She also appeared in the romantic comedy, "Every Woman\'s Life", about "the man she could have married, the man she should have married and the man she DID marry." Most of her films were made between 1924 and 1927, and included Alfred Hitchcock\'s debut feature, "The Pleasure Garden" (1925), "Paid to Love" (1927), with William Powell, and "Evening Clothes" (1927), which featured Adolphe Menjou. In 1925'},

{'title': 'Virginia Valli', 'text': ' Valli performed in "The Man Who Found Himself" with Thomas Meighan. Her first sound picture was "The Isle of Lost Ships" with Jason Robards Sr. and Noah Beery Sr. in 1929. Her last film was in "Night Life in Reno", in 1931.</s><s>Personal life. Valli was first married to George Lamson and the two shared a bungalow in Hollywood, near the Hollywood Hotel. In 1931, she married her second husband, actor Charles Farrell. They moved to Palm Springs, where she was a social fixture for many years. She suffered a stroke in 1966, and died two years later, aged 73, in Palm Springs. She was buried in the Welwood Murray Cemetery of that city. She had no children.</s><s>Filmography. - "Filling His Own Shoes" (1917) - "The Golden Idiot" (1917) - "The Fibbers" (1917) - "Satan\'s Private Door" (1917) - "Uneasy Money" (1918) - "Ruggles of Red Gap" (1918) - "His Father\'s Wife" (1919) - "The Black Circle" (1919) - "The Very Idea"}}, {'title': 'Virginia Valli', 'text': ' Bibliography - Elyria, Ohio Chronicle Telegram, "Virginia Valli, ex-actress, dies", September 25, 1968, p.\xa040. - Madison, Wisconsin Capitol Times, "Borne On The Wings Of The "Storm" Valli – Latest Star On The Movie Horizon", Saturday Afternoon, September 16, 1922, p.\xa04. - Oakland, California Tribune, "Virginia Valli Starts Work In Eastern Studio", June 21, 1925, p.\xa075.</s>'}, {'title': 'Virginia Valli', 'text': ' (1920) - "The Dead Line" (1920) - "The Midnight Bride" (1920) - "The Common Sin" (1920) - "The Plunger" (1920) - "The Silver Lining" (1921) - "Sentimental Tommy" (1921) - "The Idle Rich" (1921) - "The Man Who" (1921) - "A Trip to Paradise" (1921) - "The Devil Within" (1921) -

"Love's Penalty" (1921) - "The Right That Failed" (1922) - "His Back Against the Wall" (1922) - "The Black Bag" (1922) - "The Village Blacksmith" (1922) - "Tracked to Earth" (1922) - "The Storm" (1922) - "The Shock" (1923) - "A Lady of Quality" (1924) - "Wild Oranges" (1924) - "The Confidence Man" (1924) - "The Signal Tower" (1924) - "K – The Unknown" (1924) - "In Every Woman's Life" (1924) - "The Lady Who L",
 {'title': 'Virginia Valli', 'text': 'ied" (1925) - "The Price of Pleasure" (1925) - "The Man Who Found Himself" (1925) - "Siege" (1925) - "Up the Ladder" (1925) - "The Pleasure Garden" (1925) - "Watch Your Wife" (1926) - "Flames" (1926) - "The Family Upstairs" (1926) - "Stage Madness" (1927) - "Judgment of the Hills" (1927) - "Evening Clothes" (1927) - "Marriage" (1927) - "Paid to Love" (1927) - "Ladies Must Dress" (1927) - "East Side, West Side" (1927) - "The Street of Illusion" (1928) - "The Escape" (1928) - "The Isle of Lost Ships" (1929) - "The Lost Zeppelin" (1929) - "Mister Antonio" (1929) - "Behind Closed Doors" (1929) - "Guilty?" (1930) - "Night Life in Reno" (1931)</s><s>References. - Notes -']]

(b) the ground truth label; 1 (NS)

(c) your model's predicted label; 0 (S)

(d) the error type you gave it;

Category II - 'Implicit but not explicit'

(e) 1-3 sentences describing why you think the error type label applies.

The provided fact, "She transitioned to acting," doesn't seem to be directly supported by the given text about Virginia Valli. The text provides extensive information about Virginia Valli's life and career, including her work in film and her personal life, but it does not explicitly mention her transition to acting. It seems to be a general statement that may not be directly connected to the information provided in the text.

Examples (False Negative)

Example 5:

(a) the text of the example itself;

Fact : Gerhard Fischer is best known for inventing a metal detector

Text:

[{'title': 'Gerhard Fischer (inventor)', 'text': '<s>Gerhard Fischer (inventor) Gerhard Julius Richard Fischer later Gerhard Julius Richard Fisher, Gerhard R. Fisher (March 18, 1899 – May 2, 1988) was a U.S. entrepreneur of German descent. He contributed to the development and popularity

of the hand held metal detector.

Biography. Fisher was born in 1899 in Landeshut, Silesia, to Richard Hugo Georg Arthur Fischer, an engineer, and his wife Margaretha Julia Fischer née Job. His mother was from Łódź, where the parents also married. Around 1906, the Fischer family moved to Dresden. After studying electrical engineering at the Dresden University, Fischer emigrated to the U.S. In 1931, he founded Fisher Research Laboratory, Inc. in Palo Alto, where he served as president until his retirement in 1967. While working with aircraft radio detection finders environment-dependent changes became apparent. From the interference by metal, he concluded that the device must also be suitable for detecting metal. Fisher shared the idea with Albert Einstein who correctly predicted the proliferation of hand held metal detector use. In 1937, he patented his metal detector. He died 1988 in Palo Alto.

Biography:Inventions. Although the actual inventor of}, {'title': 'Gerhard Fischer (inventor)', 'text': ' the hand-held metal detector is disputed, the hand-held metal detector was made in 1925 and was first patented by Dr. Gerhard Fisher in 1931. A metal detector had been invented some forty years earlier (1881) by Alexander Graham Bell for the sole purpose of locating a lead bullet in President James A. Garfield.

Biography:Fisher Research Laboratory. He founded "Fisher Research Laboratory" to develop and market the hand held metal detectors in 1931.

References. - - -

(b) the ground truth label; 0 (S)

(c) your model's predicted label; 1 (NS)

(d) the error type you gave it; **Category III** - Factual Discrepancy

(e) 1-3 sentences describing why you think the error type label applies.

The text mentions that the invention of the hand-held metal detector is disputed and that a metal detector had been invented by Alexander Graham Bell in 1881, which precedes Gerhard Fischer's patent in 1931. Therefore, based on the information in the text, it cannot be confirmed that Gerhard Fischer invented the first handheld, battery-operated metal detector. The gold label is accurate in this case but for model its not possible to predict with bagging approach, model need to understand entire context.

Example 6

(a) the text of the example itself;

Fact : Gerhard Fischer invented the first handheld, battery-operated metal detector.

Text:

[{'title': 'Gerhard Fischer (inventor)', 'text': ' the hand-held metal detector is disputed, the hand-held metal detector was made in 1925 and was first patented by Dr. Gerhard Fisher in 1931. A metal detector had been invented some forty years earlier (1881) by Alexander Graham Bell for the sole purpose of locating a lead bullet in President James A. Garfield.

Biography:Fisher Research Laboratory. He founded "Fisher Research Laboratory" to develop and market the hand held metal detectors in 1931.

References. - - -

}, {'title': 'Gerhard Fischer (inventor)',

'text': '<s>Gerhard Fischer (inventor) Gerhard Julius Richard Fischer later Gerhard Julius Richard Fisher, Gerhard R. Fisher (March 18, 1899 – May 2, 1988) was a U.S. entrepreneur of German descent. He contributed to the development and popularity of the hand held metal detector.</s><s>Biography. Fisher was born in 1899 in Landeshut, Silesia, to Richard Hugo Georg Arthur Fischer, an engineer, and his wife Margaretha Julia Fischer née Job. His mother was from Łódź, where the parents also married. Around 1906, the Fischer family moved to Dresden. After studying electrical engineering at the Dresden University, Fischer emigrated to the U.S. In 1931, he founded Fisher Research Laboratory, Inc. in Palo Alto, where he served as president until his retirement in 1967. While working with aircraft radio detection finders environment-dependent changes became apparent. From the interference by metal, he concluded that the device must also be suitable for detecting metal. Fisher shared the idea with Albert Einstein who correctly predicted the proliferation of hand held metal detector use. In 1937, he patented his metal detector. He died 1988 in Palo Alto.</s><s>Biography.:Inventions. Although the actual inventor of']

(b) the ground truth label; 0 (S)

(c) your model's predicted label; 1 (NS)

(d) the error type you gave it; **Category III** - Factual Discrepancy

(e) 1-3 sentences describing why you think the error type label applies.

The text mentions that the invention of the hand-held metal detector is disputed, and it also references an earlier invention of a metal detector by Alexander Graham Bell in 1881.

Example 7:

(a) the text of the example itself;

Fact : Itakura made his senior debut for the national team in 2019

Text:

['title': 'Ko Itakura', 'text': '<s>Ko Itakura</s><s>Club career. Born in Yokohama, Ko Itakura joined J1 League club Kawasaki Frontale in 2015, with which he won the 2017 Japanese championship. He was loaned to Vegalta Sendai in 2018. In January 2019, he joined Premier League club Manchester City and was immediately loaned to Eredivisie club Groningen, until the summer of 2020. On 24 July 2020, his stay with Groningen was extended with one more year after both clubs agreed. On 19 August 2021, Itakura signed a season-long loan deal with 2. Bundesliga club Schalke 04 with an option to make the move permanent for £5 million. At the end of the season, he was promoted to the Bundesliga with Schalke, but the club did not activate the option due to financial reasons. On 2 July 2022, he returned to Germany and signed permanently with Bundesliga club Borussia Mönchengladbach on a €5,000,000 transfer fee.</s><s>International career. In May 2017, Itakura was called up to the Japan U-20 national team for the 2017 U-20 World Cup. At this tournament, he played 2 matches as defensive midfielder. He was selected for the senior Japan'],

{'title': 'Ko Itakura', 'text': ' national football team for 2019 Copa América and made his debut on 20 June 2019 in the game against Uruguay, as a starter. In November 2022, he was selected for the 2022 FIFA World Cup Japan National team for the first time. Participated in all group stage matches and became the first Asian team to win first place in an overseas World Cup group league, contributing to advance to the final tournament for two consecutive tournaments. His long ball was the starting point of the come-from-behind goal against Germany. He was also named in the first group stage best eleven by Spain\'s \'Marca\' and Italy\'s version of \'Sky Sports\'. The former named him one of the players to double his value in the World Cup and described him as "the most consistent performance of the entire tournament". On March 28, 2023, he served as captain for the first time in the second match of the second term of Moriyasu Japan against Colombia.</s><s>Career statistics.</s><s>Career statistics.:Club.</s><s>Career statistics.:International. "Scores and results list Japan\'s goal tally first."</s><s>Honours. Kawasaki Frontale - J1 League: 2017 Vegalta Sendai - Emperor\'s Cup: 2018 Schalke 04'}, {'title': 'Ko Itakura', 'text': ' - 2. Bundesliga: 2021–22 Individual - TAG Heuer YOUNG GUNS AWARD: 2018 - Groningen player of the year: 2020/21 - Japan Pro-Footballers Association awards: Best XI (2022)</s>'}]

(b) the ground truth label; 0 (S)

(c) your model's predicted label; 1 (NS)

(d) the error type you gave it; 'the gold label is correct, and the model is wrong' – **Category-I**

(e) 1-3 sentences describing why you think the error type label applies.

Based on the provided text, the fact is validated and supported. The text mentions that Ko Itakura made his debut for the national football team in 2019 during the 2019 Copa América, which aligns with the fact. Here's the relevant excerpt from the text: "national football team for 2019 Copa América and made his debut on 20 June 2019 in the game against Uruguay, as a starter. Model failed as its not able to maintain the context.