A   Model Architecture

We show the full model architecture in Figure 1.
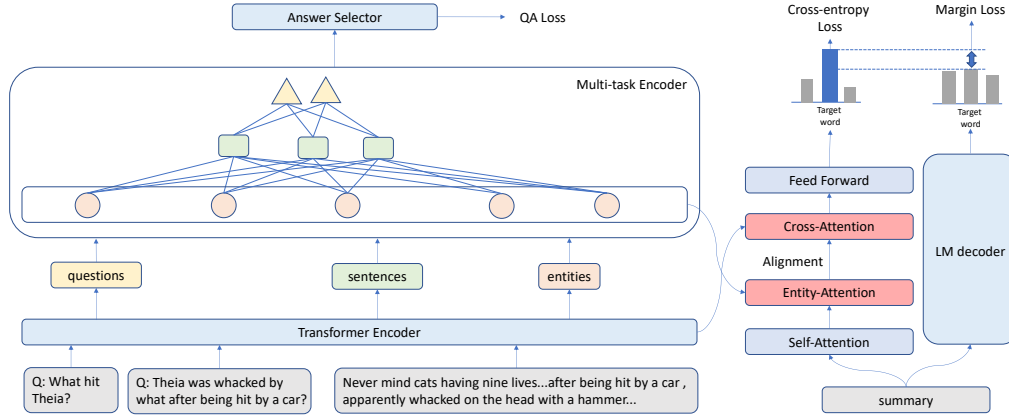
Figure 1: The overall architecture of our model.

B   Implementation Details

Dataset Statistics.   We follow the official data splits for the two datasets, with the number of samples in each split listed in Table 1.

Table 1: Numbers of samples in train/validation/test splits of XSum and CNN/DM.

Dataset	Train	Validation	Test
XSum	204,045	11,332	11,334
CNN/DM	287,227	13,368	11,490

We use Huggingface Transformers [1] for our experiments with BART and PEGASUS. Our experiments are conducted on the A100 GPU with 80GB memory.

Training Settings.   For hyperparameters, we follow [2] for BART and [3] for PEGASUS. Mixed-precision training is not supported by the PEGASUS implementation and is utilized on BART only.

Decoding Settings.   We use the beam search algorithm to decode summaries. The beam size is set to 6 for BART and 8 for PEGASUS.

Running Time and Model Sizes.   The BART-based models take 15 hours for training on CNN/DM and 1 hour to decode. Meanwhile, training the PEGASUS-based models takes 2 hours for XSum, and the decoding takes 1 hour.

As for model sizes, our BART-based models and PEGASUS-based models have 496M and 667 parameters.

C   Visualization

1
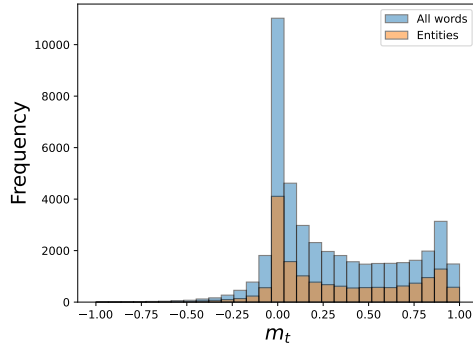
Figure 2: The distributions of margin m_t on entity words and all words. The proportion of entity words with m_t around 0 is smaller, indicating that LM is accurate in predicting function words.

D   Human Evaluation

Our human evaluation includes pairwise comparison with baselines and analysis of intrinsic and extrinsic errors. The guideline is shown in Figure 3 and Figure 4. We also show some cases in Figure 5, Figure 6, Figure 7, Figure 8, and Figure 9.

2

In this study, you will first read article-summary pairs and then identify two types of text spans in the summaries. These spans include content that is contradicted by or cannot be implied from the article. The description for each type is described below:

- **Intrinsic errors:** Text spans that misconstruct phrases or clauses from the article.

- **Extrinsic errors:** Text spans that include words that are not in the article and are not verifiable or cannot be verified by Wikipedia.

When selecting spans, you should always make sure the spans are complete words.

In practice, you should follow these steps carefully: (1) read the article and summaries carefully; (2) figure out if there is content contradicted by or not presented in the article; (3) label the span as an intrinsic error if it misconstructs phrases or clauses from the article; (4) label it as an extrinsic error if it cannot be verified from the input.

Example annotations 1

Article: Former New England Patriots star Aaron Hernandez will need to keep his lawyers even after being convicted of murder and other charges in the death of Odin Lloyd. **The 25-year-old potentially faces three more trials one criminal and two civil actions.** Next up is another murder trial in which he is accused of killing two men and wounding another person near a Boston nightclub in July 2012. Prosecutors have said Hernandez fatally shot Daniel de Abreu and Safiro Furtado when he fired into their 2003 BMW. Another passenger was wounded and two others were uninjured. Hernandez pleaded not guilty at his arraignment. The trial was originally slated for May 28, but Jake Wark, spokesman for the Suffolk County District Attorney's Office, said Wednesday the trial had been postponed and no new date had been set.

Summary: Aaron Hernandez has been found guilty in Odin Lloyd's death, but his troubles are not over. He also faces murder charges in Suffolk County, Massachusetts, but trial was postponed . In addition, Hernandez will face three civil lawsuits; one is in relation to Suffolk County case.

Explanation: face three civil lawsuits is an intrinsic error as highlighted by the article sentence in **bold**.

Example annotations 2

Article: Khalil Dale, 60, was abducted in **Quetta** in January 2012 and was found dead on a roadside a few months later. He had been beheaded. A note next to his body said he was killed because a ransom had not been paid. Mr Dale was born in York but lived in Dumfries. He spent 30 years working in countries including Somalia, Afghanistan and Iraq. An inquest into his death was held at Chesterfield Coroners Court because he is buried in Derbyshire. The court heard that the Muslim convert, who was formerly known as Kenneth, worked as a humanitarian assistance relief worker. Following his abduction, negotiations were undertaken by the International Committee of the Red Cross with the help of the UK government. His body was found on 29 April 2012. The inquest was told that he died as a result of decapitation. Senior coroner Dr Robert Hunter concluded that Mr Dale was unlawfully killed while providing international humanitarian assistance.

Summary: A British aid worker was unlawfully killed by Islamist militants in Pakistan, an inquest has heard.

Explanation: Islamist militants is an extrinsic error as it can not be found in or inferred from the article. The information is also not verifiable by Wikipedia.

Figure 3: Guideline for our summary error annotation. ▮ denotes intrinsic errors and ▮ denotes extrinsic errors.

3

In this study, you will evaluate 100 sets of summaries produced by three systems. For each set, its corresponding article and a baseline summary are shown before the three system summaries. The errors in the baseline summary are highlighted.

Please *first read the article and the baseline summary* and then *compare each system summary against the baseline summary* based on **informativeness** and **factual consistency**.

For informativeness and factual consistency, you need to label whether the system summary is better or worse than the baseline summary.

Article: Alexys Brown, also known as Lexi, died at her home in Emmadale Close, Weymouth, on Thursday. An investigation is under way to discover how she became trapped. A post-mortem examination is due to be carried out this week. It was originally hoped the appeal would raise £2,000. Alison Record, who started the Just Giving appeal, said she was "heart broken" over the death. "Everybody by now has heard of the terrible tragedy the Brown family have suffered with the loss of their beautiful and beloved little girl Lexi," the appeal page reads. Many other comments have been posted on the appeal page. Steph Harris said: "Thinking of you all at this devastating time, fly high beautiful princess. Love Steph and family xxx" Lesley Andrews added: "No amount of money will take away the pain, but so much love comes with every penny. Take care. xx" Aster Group, the housing association responsible for managing the home, is assisting with the police investigation. The Health and Safety Executive (HSE) is also investigating. Dorset County Council said it had not installed the disabled lift at the property.

Baseline Summary: An appeal to raise 10,000 pounds for the family of a three-year-old girl who died after becoming trapped in a lift has raised more than 20,000 pounds.

Informativeness: Whether the summary captures salient content from the input article. Note that incorrect content should be considered as invalid.

Win. *An appeal to raise money for the family of a three-year-old girl who died after getting stuck in a lift was originally hoped for raising £2,000.* The target money of the appeal is a salient information.

Tie. *An appeal to raise money for the family of a girl who died after getting stuck in a lift has raised more than £20,000.* Compared to the baseline, missing incorrect information does not affect the informativeness.

Lose. *An appeal to raise money for the family of a three-year-old girl has raised more than £20,000.* This system summary does not mention the death of the girl, which is a salient content of the article.

Factual Consistency: Whether the summary is factually correctly based on the article and knowledge from Wikipedia.

Win. *An appeal has been set up for the family of an eight-year-old girl who died after becoming trapped in a lift at her Dorset home.* This system summary does not generate the incorrect numbers of money.

Tie. *An appeal to raise 5,000 pounds for the family of a seven-year-old girl who died after becoming trapped in a lift has raised more than 20,000 pounds.* This system summary makes similar errors to the baseline.

Lose. *The family of an eight-year-old girl who died after becoming trapped in a lift at her Dorset home have set a fundraising target of 10,000 pounds.* This system summary fabricates an event *The family have set a fundraising target*, which is more severe than errors of modifiers.

Figure 4: Guideline for pairwise comparison.

4

Example 1

Article: Tim Sherwood's jacket did not survive beyond the first 10 minutes and after this astonishing contest it remains to be seen if either of these sides fare much better. When Aston Villa's animated manager threw his gilet to the ground in celebration at the sight of Christian Benteke's first half equaliser, he probably rather hoped his players were man enough to remain in the Barclays Premier League after all. Indeed when he then saw Benteke convert the second of his three goals after 33 minutes, he may have felt his damning critique on Monday had provoked exactly the response he was looking for. But the grit, desire and determination his forwards had demonstrated was lacking at the opposite end of the field and a QPR side every bit as desperate to maintain their top flight status did a fine job of exposing exactly the weaknesses Sherwood had highlighted. Matt Phillips left headed Queens Park Rangers into a seventh-minute lead, getting on the end of Bobby Zamora's cross. Winger Phillips garnered just enough power on his head to plant beyond Brad Guzan in the Aston Villa goal. Joey Barton wheels away after watching Phillips nod in at the back post, as Ciaran Clark left and Carlos Sanchez appeal for offside. But QPR were only ahead for three minutes after Christian Benteke equalised for the hosts at Villa Park. Benteke drove beyond Rob Green from the edge of the box to net his seventh Premier League goal of the season. If it made for a hugely entertaining encounter, it must have been hell for the managers however friendly they might claim to be. Sherwood walked off the pitch at half-time with his hands planted casually in his pockets, comforted by the fact that his side were sitting five points clear of relegation danger. But when Charlie Austin followed Chint Hill's second half equaliser with a third goal for the visitors, Villa had replaced Chris Ramsey's spirited side in the bottom three. Only 12 minutes remained, and even if Benteke required just five more minutes to score again with a terrific free-kick the overriding feeling in the Villa ranks was certainly more one of frustration than relief. Benteke did not look like a man who wanted to enjoy his hat-trick at the sound of the final whistle. On the contrary, he looked devastated. Both sides have some difficult games ahead but when Tottenham and Manchester City come next for Villa, there is plenty to concern Sherwood. A replay of QPR's goals will not make pleasant viewing. The failure to close down Bobby Zamora before he delivered the cross that enabled Matt Phillips to strike after only seven minutes. The failure to challenge Hill and so stop him scoring his first Premier League goal. The failure too to respond to the threat being posed by Austin, who was allowed to take a touch to control the cross from Phillips before driving the ball past Brad Guzan. Such frailties could yet drag Villa down this season, and Sherwood knows it. 'We are not equipped unfortunately to go anywhere and dig out a result,'he complained afterwards, and on this evidence he would appear to be right. Aston Villa 4-4-2 : Guzan 6 ; Bacuna 6, Vlaar 5.5, Clark 6, Richardson 6 ; Cleverley 6.5, Sanchez 6.5, Delph 7, Grealish 6.5 ; Agbonlahor 7.5, Benteke 8. Manager : Tim Sherwood 7. Goals : Benteke 10, 33, 83. QPR 4-4-2 : Green 6.5 ; Isla 6 Traore 52, 5, Caulker 5.5, Onuoha 5, Hill 6.5 ; Phillips 7, Barton 6, Sandro 6, Kranjcar 5 Henry 52, 5 ; Austin 5, Zamora 6.5. Manager : Chris Ramsey 7. Subs not used : McCarthy, Hoilett, Mitchell, Grego-Cox. Goals : Phillips 7 ; Hill 55 ; Austin 78. Booked : Sandro, Kranjcar, Austin. Ref : C. Pawson. Att : 33,708. CLICK HERE to view our brilliant Match Zone - including Christian Benteke's second goal. Aston Villa manager Tim Sherwood threw down his gilet in celebration after Benteke scored the early equaliser. Benteke was at the double in the opening 45, sweeping beyond Green to put Villa ahead just after the half hour. **Defender Clint Hill was the unexpected scorer of QPR's equaliser just after half-time to make it 2-2. Hill grabs the Queens Park Rangers badge in celebration after scoring his first ever Premier League goal.** Charlie Austin got ahead of Ron Vlaar and had looked as if he 'd won the game for QPR. At times his side were excellent here, thrilling their supporters with a tremendous first half display. Phillips might have landed the first blow for QPR but the players he was probably referring to as 'the icing on the cake'were giving him plenty

Ground Truth Summary: Matt Phillips gave QPR a seventh-minute lead in the crunch clash at Villa Park. But that lead only lasted three minutes, with Christian Benteke equalising for the hosts. Benteke then added a second after 33 minutes to nudge Villa ahead in the relegation scrap. Clint Hill was the unlikely man to level the scores after the break for Chris Ramsey's side. Charlie Austin looked to have scored a late winner in an entertaining game on Tuesday night. But Benteke completed his hat-trick to earn a share of the spoils on 83 minutes.

BART: Matt Phillips headed Queens Park Rangers into a seventh-minute lead. Christian Benteke equalised for the hosts just three minutes later. ==Clint Green put QPR ahead just after the half hour mark.== Charlie Austin made it 2-2 just after half-time with his first ever Premier League goal. Chint Hill made it 3-2 for QPR with his second goal of the season. Bentece completed his hat-trick with a free-kick in the 83rd minute.

SimCLS:
Christian Benteke scored three goals for Aston Villa in 3-2 win over QPR. Matt Phillips headed queens park rangers into a seventh-minute lead. ==Clint Green put QPR ahead just after the half hour mark.== Charlie Austin scored QPR's second goal to make it 2-2 at half time. Chint Hill scored his first ever premier league goal for QPR to make the score 3-1. Bentece scored a fourth goal in the 83rd minute to seal the win.

FES: Matt Phillips put Queens Park Rangers ahead after seven minutes with a header from Bobby Zamora's cross. Christian Benteke equalised for Aston Villa three minutes later before half-time with a superb free-kick. ==Defender Clint Hill scored his first ever Premier League goal to make it 2-2 just after half time at Villa Park.== Charlie Austin made it 3-2 in the 78th minute as QPR moved five points clear of the relegation zone.

Figure 5: Sample generated summaries by baselines and our model. The **original fact**, intrinsic error, and the corresponding faithful fact in each summary are highlighted.

5

Example 2

Article: An epic stunt by the Ecuador tourist board saw it fool a group of 40 visitors into thinking they had flown to Costa Rica to enjoy the delights of its famous port town Golfito. But in fact, the group of tourists were exploring the activities on offer in the country's Napo Province, in the Amazon rainforest. The publicity stunt saw the tourists enjoy white water rafting, swimming near waterfalls and hiking, but it seems that Costa Rica was not amused by the ruse. The creative prank was executed by the Ecuadorean airline Tame, Ecuador's Tourism Ministry and Ministry of Transport and Public Works. The unusual video sparked a diplomatic incident, with the Costa Rican government and Ambassador to Ecuador complaining to the authorities and resulting in Ecuador issuing an apology. The creative project was executed by the Ecuadorean airline Tame, Ecuador's Tourism Ministry and Ministry of Transport and Public Works. But the stunt sparked outrage from the Costa Rican Tourism Institute, the presidential palace and the Foreign Ministry. As Ecuador residents arrived, not in Costa Rica but another Ecuador airport, Tena, where they were given fake stamps in their passports as they went through a staged passport control. No attention to detail was spared as huge posters were placed over the welcome billboards at the airport. Adverts depicting Imperial beer and 'Esencial Costa Rica,'Costa Rica's national brand, were displayed in the airport to throw the group off the scent. Even fictitious immigration documents and car licence plates were created to make the group think they were in Golfito, a port town in Costa Rica. On top of all that organisers used mobile phone and GPS blockers to keep passengers from using technology to discover the hoax. The Tame airline staged the prank in a bid to demonstrate that Ecuador should be considered a top tourist destination. A fake passport control was set up, which even gave out fake stamps for passports. The unsuspecting tourists took part in a number of exciting activities, from white water rafting to hiking. The prank was captured by video but following complaints, the tourism organisers in Ecuador took the video down. 'We're unhappy about their use of our country to trick their people into getting to know their own country,'Costa Rican tourism minister Wilhelm von Breymann told The Tico Times. The trip aimed to show citizens that Ecuador can be a great tourist destination, featuring many incredible site like the breathtaking volcanic crater lake, Quilotoa. The prank was captured by video but following complaints, the tourism organisers in Ecuador took the video down. In a note posted on the foreign ministry's website, the government stated :'The Costa Rican government expressed its discomfort at the use of its image in publicity about Ecuadorean tourism. 'The Ambassador Alejandro Solado spoke with the highest Ecuadorian authorities about the display in the publicity video and the South American country will take the post down from the Internet.' **The Ecuadorain Ambassador Ricardo Patino then followed up with an apology to Costa Rica** and confirmed Ecuador had sent a letter to the government to settle the matter. Although they were previously considering legal action, they have since accepted the apology, La Nacin reported. Costa Rican outlet La Nacin uploaded it on YouTube where it has been viewed by 60,000 people. At the end of the trip, the organiser tore down an 'Esencial Costa Rica'banner that had been posted at the airport to throw the group off the scent. This revealed the Ecuadorean tourism slogan : 'love life'Tame, the largest airline of Ecuador, was part of the big-scale prank, and helped the tourism group to fool the visitors.

Ground Truth Summary: The stunt was pulled by local tourism groups and an Ecuador airline. Fake signs, passport control, posters and adverts were created in the ruse. It sparked outrage from Costa Rican officials prompting a formal apology. The video was taken down, but was reuploaded by La Nación.

BART: Group of 40 tourists were fooled into thinking they were in Golfito, Costa Rica. But they were actually in Ecuador's napo province, in the Amazon rainforest. The stunt was executed by the Ecuadorean airline tame, Ecuador's tourism ministry and ministry of transport and public works. Costa Rica was not amused by the ruse and complained to the authorities.

SimCLS: Ecuadorian airline tame, tourism ministry and ministry of transport and public works staged the stunt. The group of 40 tourists were tricked into thinking they were visiting golfito, a port town. But in fact they were exploring activities in the amazon rainforest. The stunt sparked outrage from Costa Rica, who complained to the authorities. Ecuador has since issued an apology and accepted the government 's apology.

FES: Ecuador staged a big-scale publicity stunt to convince tourists to visit the country. Huge posters and fake passports were put up at the airport to fool visitors into thinking they were in Costa Rica. Organisers used GPS blockers to keep passengers from discovering the hoax. Costa Rican tourism minister said she was 'unhappy' with the use of her country's image. Ecuador has since issued an apology to Costa Rica and sent a letter of apology.

Figure 6: Sample generated summaries by baselines and our model. The **original fact**, intrinsic error, and the corresponding faithful fact in each summary are highlighted.

6

Example 3

Article: Real Sociedad midfielder Gonzalo Castro scored one of the goals of the season but it wasn't enough as David Moyes'side had to settle for a share of the spoils in San Sebastian. After an evenly-contested opening half hour, Sociedad took the lead through a Xabi Prieto penalty strike in the 31st minute. Deportivo midfielder Jose Rodrguez appeared to handle the ball in the box with referee Pedro Jesus Perez Montero pointing to the spot. Deportivo La Coruna midfielder Lucas Perez celebrates his 40th minute equaliser. Real Sociedad midfielder Sergio Canales right contests possession with Juan Francisco Moreno. Real Sociedad defender Yuri Berchiche left shields the ball fromPerez. Sociedad captain Prieto duly stepped up to convert to fire his team into the lead at the Aneta Stadium. The home side's lead did not last long, however, as Deportivo were awarded a penalty of their own in the 38th minute. Sociedad goalkeeper Geronimo Rulli did brilliantly to save Lucas Perez's penalty effort but the Deportivo striker followed up his shot and fired home at the second time of asking to even up the scores. Real Sociedad manager David Moyes left shakes hands with Deportivo's head coach Victor Sanchez. **Sociedad seized the lead once more in the 57th minute with a goal of the highest quality when Gonzalo Castro volleyed home Sergio Canales'cross. But Deportivo came roaring back once more as Verdu Nicolas capitised on some poor defending to head home with 12 minutes of the contest remaining.**

Ground Truth Summary: Xabi Prieto struck a 33rd-minute penalty to give Real Sociedad the lead. Perez Martínez equalised for Deportivo five minutes before the break. Gonzalo Castro restored Sociedad's lead with a stunning volley. But Verdu Nicolas rescued a point for the visitors late on.

BART: Xabi Prieto gave Real Sociedad the lead from the penalty spot in the 31st minute. Lucas Perez equalised for Deportivo La Coruna in the 40th minute. Gonzalo Castro scored the winner in the 57th minute for David Moyes' side. Verdu Nicolas headed home a late consolation goal for the visitors.
SimCLS: Xabi Prieto opened the scoring for real sociedad with a 31st minute penalty. Lucas Perez equalised for Deportivo La Coruna with a second half strike. Gonzalo Castro scored a superb goal for David Moyes' side. Verdu Nicolas headed home a late consolation for Depor. The La Liga clash finished 1-1 at the Anoeta stadium.
FES: Real Sociedad and Deportivo La Coruna drew 1-1 in their La Liga clash at the Anoeta Stadium. Xabi Prieto scored a first half penalty before Lucas Perez equalised for Deportivo. Gonzalo Castro scored one of the best goals of the season for David Moyes' side. Verdu Nicolas headed home to give deportivo the lead with 12 minutes remaining.

Example 4

Article: Divock Origi has revealed that the progress of Jordon Ibe at Liverpool this season has left him counting the days until he makes his Anfield bow. **The Belgium striker was signed by Liverpool in a 10million deal after impressing at the 2014 World Cup in Brazil, before being loaned back to Lille for the 2014-15 season.** But Origi has been following Liverpool's progress from across the English Channel and after seeing the rise of Ibe and Raheem Sterling, is eagerly anticipating working under Brendan Rodgers. Divock Origi said the progress of Liverpool's youngsters have heightened his excitement at joining the club. Origi referenced the progress of winger Jordon Ibe left as an example of youth players improving at the club. Origi added that he thinks the long-term progress of Raheem Sterling means he is joining the right club. 'When you see how the coach and the staff work with the young players - how Sterling, for example, has learned over the years and how Ibe is now integrating with the team, it is very interesting,' Origi told Liverpool's official website. 'It is very nice to have seen that this season. 'The manager is one of the reasons I came to Liverpool - he's someone who has proven he knows how to work with young players, knows how to develop young players and also lets them play.'Origi, who has scored seven times in Ligue 1 this season, believes that the backing of Liverpool's supporters will help him elevate his game.' I'm somebody who when I feel loved, when I feel appreciated by the supporters, then I can give even more. It gives you a boost on the field. In Belgium it was this way, and I can see it at Liverpool.'Origi second eight earned a transfer to Liverpool after impressing for Belgium at the 2014 World Cup. Origi added that the challenges he has faced at Lille this season will make him a better player for Liverpool. Origi admits it has been a challenging season at Lille attempting balance the demands of the league with the Europa League but believes the experience he has gained means he will arrive at Liverpool a better player than this time last year. 'In a mental aspect, I've learnt a lot and I've learnt a lot about football and people looking at you,'Origi said. 'It's made me stronger and that's essential for me before coming to Liverpool.

Ground Truth Summary: Divock Origi signed for Liverpool last year but went back to Lille on loan. He will join up with Liverpool properly after the end of the season. Origi is impressed with the progress of Jordon Ibe and Raheem Sterling. Sterling insists contract criticism'goes in one ear and out the other' CLICK HERE for all the latest Liverpool news.

BART: Divock Origi joined Liverpool in a 10million deal from Lille this summer. The Belgium striker was loaned back to Lille for the 2014-15 season. Origi said the progress of Liverpool's youth players has heightened his excitement at joining the club. He added that the long-term progress of Raheem Sterling means he is joining the right club.
SimCLS: Divock Origi said the progress of Jordon Ibe has heightened his excitement at joining Liverpool. The Belgium striker was signed by liverpool in a #10million deal after impressing at the 2014 world cup in Brazil. Origi has been loaned back to lille for the 2014-15 season.
FES: Divock Origi has been following Liverpool's progress from across the Channel. The Belgium striker said the progress of Jordon Ibe and Raheem Sterling has heightened his excitement. Origi was loaned back to Lille for the 2014-15 season after impressing at the World Cup. He believes the challenges he has faced at Lille will make him a better player at Liverpool.

Figure 7: Sample generated summaries by baselines and our model. The **original fact**, intrinsic error, extrinsic error and the corresponding faithful fact in each summary are highlighted.

7

Example 5

Article: On Thursday, NPR headquartered in Washington, just 40 miles away from Baltimore ran its latest update on the urban turmoil that has erupted in the wake of the death of 25-year-old Freddie Gray because of still-unexplained spinal injuries that occurred while he was under police custody. Unfortunately, while it was a freshly produced segment, it was hardly a new story. Titled " Baltimore Unrest Reveals Tensions Between African-Americans And Asians, " the five-minute piece is urgently introduced with the promise that it will reveal " what's really happening in the more troubled neighborhoods of this majority black city, " going on state that a key ingredient of the unrest was African-Americans " targeting Asian-owned businesses for destruction. " A similar claim was made after Ferguson's uprising in August of last year. Indeed, it has been a toxic feature of the coverage of many episodes of mass metropolitan violence since the late 1980s, the era during which the trope of widespread hostility between Asian and black communities first took root in the media consciousness. Yes, interethnic tensions continue to exist, though they are hardly limited to Asians and blacks. And yes, this has resulted in troubling incidents and tragedies on both sides. But while reports say that during the chaotic social breakdowns of the past year, black-owned businesses were mostly protected during bouts of violence, there's little evidence to suggest a pattern in which Asian businesses have been actively targeted out of racial animus. Instead, it seems as if Asian-owned stores have experienced damage partly because they make up a portion of establishments operating in the most economically vulnerable and socially volatile of neighborhoods. In other words, they were collateral damage, along with other stores in the vicinity of riots. So it's time to call this persistent meme what it is : A misleading, hyperbolic and dangerous distraction, one that shifts blame away from the real issues. As Jennifer Lee, sociology professor at University of California, Irvine, and author of the 2002 book " Civility in the City : Blacks, Jews and Koreans in Urban America, " notes, " the mainstream media continues to pit minority groups against one another to draw attention from larger structural problems that plague poor, disadvantaged communities. By directing our attention to interminority conflict, it directs blame away from the structures that perpetuate gross inequality and toward individual problems. " Let's be honest. There were then and still are legitimate issues that exist between immigrant storeowners and the largely African American customers they serve that are rooted in extensive cultural differences. There's no denying that friction exists in the daily transaction between embattled communities trying hard to coexist under economic and social pressures. For example, in 1993, the robbery and shooting of Joel Lee, a 21-year-old Korean American at Towson State University, and the subsequent acquittal of his killer, was a point of contention between the Korean and African American communities. But things are different now. Decades after the height of media-inflamed tension between Asian and African Americans, patterns of immigration have shifted. Stores once operated by recent Korean immigrants are now owned by strivers from South Asia, the Middle East and Africa. The population of Baltimore has shrunk and its economy has contracted. Among merchants, there's ever-greater recognition that they and their customers are tied by a red thread, surviving or failing together. For decades, black and Asian advocacy groups have been trying to bridge differences between the communities. For example, the Baltimore-based Korean-American Grocers & Licensed Beverage Association of Maryland, founded in 1995, has worked to support its entrepreneurial members in their own attempts to address longstanding issues of neglect and abuse by Baltimore's police, while also encouraging them to build deeper ties with their constituents. A KAGRO-sponsored annual scholarship program has given hundreds of thousands of dollars in college grants to children growing up in the Baltimore neighborhoods their member retailers serve. These aren't the kind of stories you 'll hear in the media. It's easier to focus on attention-grabbing anecdotes rather than the long, hard work of adjustment and accommodation going on within and around communities. Back in 1995, the Baltimore Sun profiled Soon Jae and Eun Ja Lee, owners of Lee's Food Market in the West Baltimore's Sandtown neighborhood the same part of the city that NPR called out as a locus of Asian-black tension. The story highlighted the Lees'openness to the community, their politeness and care for their customers and their outstanding generosity, which includes both free snacks to schoolchildren and the distribution of tens of thousands of free food baskets to needy local families each year. I spoke with Eun Ja Lee, calling her without warning to check on the status of the Lees'four-decade-old business after the violence of Monday and Tuesday. Were they open? Were they safe? " Oh, of course we're open, we're always open! " said Mrs. Lee, warmly and brightly. " This week, many customers came in and said"

Ground Truth Summary: Jeff Yang: The media has a misconception about urban unrest in light of Baltimore turmoil. He says there's no pattern of African Americans "targeting Asian-owned businesses for destruction"

PEGASUS: An NPR report on the unrest in Baltimore focused on tensions between blacks and Asians. Ruben Navarrette: There 's little evidence that Asian businesses were targeted out of racial animus.

FES: Ruben Navarrette: NPR report on Baltimore unrest focused on tension between African-Americans and Asians. He says it's misleading, hyperbolic and dangerous distraction that shifts blame away from real issues.

Figure 8: Sample generated summaries by baselines and our model. The **original fact**, extrinsic error, and the corresponding faithful fact in each summary are highlighted.

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Example 6

Article: Tony Fernandes spoke of his despair after his Queens Park Rangers team twice threw away a lead against Aston Villa , with the Rangers chairman watching the scenes at Villa Park from afar on his iPhone . Christian Benteke 's hat-trick earned a draw for Villa , with his last goal coming just seven minutes before full-time , and within five minutes of what had looked like a winner from Charlie Austin . Matt Phillips had earlier given QPR the lead in the first half but taking all three points was n't to be for the relegation-threatened visitors and they had to settle for a point at Villa Park . Tony Fernandes spoke of his despair after his Queens Park Rangers team twice threw away a lead . Fernandes , Rangers chairman , was watching the 3-3 draw at Villa Park from his iPhone away from the game . Taking all three points was n't to be for the relegation-threatened visitors and they had to settle for a point . And Fernandes , currently in Malaysia , spoke of his experience of a variety of emotions while watching the game from the other side of the world . 'It 's a strange thing thus QPR love , ' he tweeted . ' I went to bed at 1 in the morning . I got up exactly at 2.45 am . No alarm . My heart knew it 's QPR time . ' I watched the game on my iPhone all kinds of emotions . Despair , disappointment , joy , but most important pride . 4 points from two away games . ' Fernandes revealed that Richard Dunne and Leroy Fer could return for Sunday 's visit of Chelsea and that Yun Suk-young would also return after that game . The character of QPR 's Clint Hill and Chris Ramsey were praised by their club 's chairman on Twitter . Charlie Austin looked like he might have scored a late winner for QPR but Christian Benteke equalised . Clint Hill scored his first Barclays Premier League goal for Rangers ' second , and Fernandes was delighted with the display of the veteran centre back , even if he did fail to get to grips with the prolific Benteke . He also reserved praise for manager Chris Ramsey . 'Clint hill typified our fighting spirit , ' he posted . 'As I 've always said players playing for the badge and Chris Ramsey what a pro . ' Finally , Fernandes posted some cryptic tweets as to his own future at the club , perhaps hinting that he would be leaving . Hill had equalised in the second half after hosts Villa led 2-1 at the break courtesy of Benteke 's two goals . Matt Phillips opened the scoring for Rangers but they found themselves pegged back by brilliant Benteke . Fernandes is also Global CEO of AirAsia , the airline that sawflight QZ8501 go missing late last year . 'It 's been a tough three months since December 28th . Abuse , tragedy , close friends gone but I never stopped believing in all that we do , ' Fernandes said . 'The decision on my future has been made . 6 games 18 points . Never stop believing rangers fans . Les also a hero . Never stop believing . ' QPR stay inside the relegation zone but moved up to 18th place with the draw . They face Chelsea at Loftus Road on Sunday in what is sure to be another occasion to play on supporters ' , and the owners ' , emotions .

Ground Truth Summary: Queens Park Rangers twice threw away a lead in clash with Aston Villa. Tony Fernandes experienced a range of emotions during 3-3 draw. Rangers chairman watched the game from afar on his iPhone. Richard Dunne and Leroy Fer could return for Sunday's visit of Chelsea. CLICK HERE for all the latest QPR news.

BART: QPR drew 3 - 3 with Aston Villa at Villa Park on Saturday. Christian Benteke scored a hat-trick to earn a point for Villa. Matt Phillips had earlier given QPR the lead in the first half. Tony Fernandes was watching the game from afar on his iPhone. The QPR chairman spoke of his despair and pride.
FES: QPR drew 3-3 with Aston Villa in their Premier League clash on Saturday. QPR chairman Tony Fernandes was watching the game from his iPhone. Christian Benteke scored a hat-trick for Villa to earn them a point at Villa Park. Charlie Austin looked like he might have scored a late winner for Rangers. CLICK HERE for all the latest Queens Park Rangers news.

Figure 9: Sample generated summaries by baselines and our model. The **original fact**, extrinsic error in each summary are highlighted.

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Table 2: Comparisons with state-of-the-art models on CNN/DM. Marked ROUGE results are from [4, 5]. Numbers in **bold** mean that the improvement to the best baseline is statistically significant (a two-tailed paired t-test with p-value <0.01).

Dataset	Model	Traditional Metric			Advanced Metric		
		RG-1	RG-2	RG-L	BERTScore	FactCC	QE
CNN/DM	FASum	42.75	20.07	39.83	88.35	49.86	30.30
	CLIFF	44.16	21.13	41.06	88.62	51.58	33.28
	BART*	44.66	21.53	41.35	88.36	51.11	31.93
	PEGASUS*	44.17	21.47	41.11	88.27	50.98	31.84
	GSum*	45.94	22.32	42.48	88.64	53.51	33.98
	SimCLS*	46.67	22.15	43.54	88.78	53.21	33.83
	FES	**46.91**	**22.84**	43.47	**89.54**	**55.23**	**35.50**
	FES(oracle)	50.50	26.41	46.97	90.01	59.25	39.11
	FES w/o multi	44.95	21.86	41.61	88.93	54.18	34.90
	FES w/o QA attention	46.53	22.49	43.12	89.27	54.85	35.22
	FES w/o margin	46.23	22.26	42.82	89.22	54.60	34.93
	FES w/o key	45.50	22.25	42.12	89.03	54.47	34.78
XSum	FASum	42.18	19.53	34.15	90.46	17.27	19.01
	CLIFF	44.47	21.39	36.41	91.48	20.05	22.91
	BART*	45.51	21.94	36.75	91.32	19.91	20.36
	PEGASUS*	47.21	24.56	39.25	91.25	20.69	22.63
	GSum*	45.40	21.89	36.67	90.45	20.61	22.48
	SimCLS*	47.61	24.57	39.44	91.28	20.80	22.97
	FES	**47.77**	**24.95**	**39.66**	**92.05**	**22.34**	**25.83**
	FES w/o multi	47.26	24.69	39.36	91.38	21.18	23.48
	FES w/o QA attention	47.69	24.81	39.57	91.86	22.06	25.39
	FES w/o margin	47.49	24.74	39.40	91.60	21.55	24.49

Model	Inform.			Factual.		
	Lose↓	Tie	Win↑	Lose↓	Tie	Win↑
FES	**6%**	84%	**10%**	5%	84%	**11%**

Table 3: Human evaluation: percentages of summaries that are worse than, tied with, or better than SimCLS on XSum dataset.

	CNN/DM	XSum
BART	36.08	24.82
SimCLS	36.95	24.87
FES	37.31	25.01

Table 4: Performance of our model and baselines in terms of FEQA [6] metric on two datasets.

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