A Supplemental Material

The appendix provides examples from the test set, with side-by-side comparisons of the reference summaries and the summaries produced by the Seq2seq-Baseline model, the Coverage model and our model. In each example:

- Blue denotes information repetitions.
- Red denotes the non-grammatical or non-coherent sentences.
- Yellow denotes non-salient information that should not be included in the summary.
- Green denotes the salient information lost by Seq2seq-Baseline model or Coverage model, but is included in our model.

Gold Reference: gertrude pitkanen started the illicit scheme in butte , montana in the 1920s .
for around 30 years , she gave newborns to adoptive parents for cash .
children involved in the crimes have aged , and are looking for answers .
is only since the proliferation of dna that they have found lost relatives .
group called gertie 's babies believe there are more children out there .

Seq2Seq-baseline: chiropractor gertrude pitkanen , 69 , took babies from their mother 's arms seconds after they were born and handed them to their adoptive parents .
the infants were driven to their new homes , the families were sometimes forced to throw their afterbirth out of the window because they were removed so quickly .

Coverage: gertrude pitkanen , 69 , was purchased for $ 100 in a motel room in 1946 .
chiropractor gertrude pitkanen took babies from their mother 's arms seconds after they were born and handed them to their adoptive parents .

Our Method: illicit operation : chiropractor gertrude pitkanen would sell newborn babies to adoptive parents for as little as $ 100 in butte , montana .
as the infants were driven to their new homes , the families were sometimes forced to throw their afterbirth out of the window because they were removed so quickly .
they have joined together to form a group called gertie 's babies who have been using dna to trace their biological families and search for their estranged siblings that are still alive .

Table 1: The summary generated by the Seq2Seq-baseline model contains non-grammatical sentence. The Coverage model reports some secondary information, such as "gertrude pitkanen , 69 , was purchased for $ 100 in a motel room in 1946". Our method reports more salient information, such as information about "gertrude pitkanen sell newborn babies to adoptive parents for cash in butte , montana", "form a group called gertie 's babies" and "using dna to trace their lost relatives". Obviously, the summary generated by our model is more informative, concise and coherent.

Gold Reference: huw davies has been hunting for a permanent job for almost 13 years.
34-year-old has not been called for a single interview during that time .
applied for a string of jobs - including a train driver - but with no joy .
has a geography degree , three a-levels and 10 gcses on his cv .
has also spent time teaching in south africa , kuwait and saudi arabia .

Seq2Seq-baseline: huw davies , 34 , has been searching for permanent employment for 13 years . he has been searching for permanent employment for almost 13 years . he has been searching for permanent employment for almost 13 years .

Coverage: huw davies , 34 , has been searching for permanent employment for 13 years .
his bsc (hons) degree , mr davies , who lives in merthyr tydfil , also has three a-levels and 10 gcses on his cv .

Our Method: huw davies , 34 , has been searching for permanent employment for almost 13 years since graduating from the university of glamorgan in 2002 .
as well as his bsc (hons) degree , mr davies , who lives in merthyr tydfil , also has three a-levels and 10 gcses on his cv .
despite his strong academic background , he has been unable to secure a job and says he ' has n't got the foggiest ' about what he is doing wrong .

Table 2: The Seq2Seq-baseline model suffers from serious information repetitions. The Coverage model reduces repetitions, but generates non-grammatical sentences. The summary generated by our method includes the salient information about "huw davies has been unable to secure a job", and is also more coherent and fluent.

Gold Reference: 3,118 applicants accepted as freshmen by university of florida , gainesville .
but after receiving acceptance notices , they realized there was a condition .
students had to agree to spend their entire first year taking online classes .
classes are part of new program pathway to campus enrollment , or pace .
they aim to accommodate more students at flagship college , officials said .

Seq2Seq-baseline: more than 3,000 students are facing an unexpected decision after they received acceptance notices from the university of florida - only to find they would have to take online classes for a year .
after reading their congratulations notices , they apparently realized they would need to agree to spend their entire first year taking classes on the internet in order to attend the public college .

Coverage: more than 3,000 students are facing an unexpected decision after they received acceptance notices from the university of florida .
the 3,118 unidentified applicants were presumably delighted when they were accepted as freshmen by the university in gainesville for the fall after sending in applications for traditional first-year slots .
but after reading their congratulations notices , they apparently realized they would need to agree to spend their entire first year taking online classes for a year .
they were also in addition to the estimated 12,000 students offered traditional freshman slots .

Our Method: the 3,118 unidentified applicants were presumably delighted when they were accepted as freshmen by the university in gainesville for the fall after sending in applications for traditional first-year slots .
after reading their congratulations notices , they apparently realized they would need to agree to spend their entire first year taking classes on the internet in order to attend the public college .
the classes are part of a new program - the pathway to campus enrollment (pace) - which started in 2015 and aims to accommodate a higher number of students , the washington post reported.

Table 3: The Seq2Seq-baseline model reports repeated information about "the 3,118 applicants have to take online classes in the first year". The Coverage model also reports repeated information about "the 3,118 applicants receive acceptance from the university". Both the two models lose information about "the classes are part of new program pathway to campus enrollment , or pace" and "aim to accommodate more students", which are both successfully detected and reported by our method.

Gold Reference: ronda blaylock was just 14 years old in 1980 when she was found stabbed to death and brutally assaulted .
this after she and a friend had taken a ride home from a man after school in rural hall , north carolina .
town is some wholesome it was used as a model for mayberry in ' the andy griffith show ' .
her friend was dropped off but ronda was never seen again .
the man , now likely in his late fifties , has never been found .
now police say that new dna evidence as well as testimony from key witnesses has them close to solving the case .
surry county sheriff graham atkinson said in a press conference on monday the man still lives in the area and they are close to finding him .

Seq2Seq-baseline: ronda blaylock was just 14-years-old in 1980 when she was found stabbed to death .
her partially clothed body was discovered in a heavily wooded area almost 20 miles away from the bowling alley parking lot where she and her friend had hitched a ride .
the man who gave her a ride home that day was never found , the man who gave her a ride home that day was never found .

Coverage: ronda blaylock was just 14-years-old in 1980 when she was found stabbed to death .
her partially clothed body was discovered in a heavily wooded area almost 20 miles away from the bowling alley parking lot where she and her friend had hitched a ride .
three days later , her partially clothed body was discovered in his early twenties back in 1980 , drove a blue pickup truck with a white shell over the bed and went by jimmy .
he told the girls his friends called him butch .

Our Method: ronda blaylock was just 14-years-old in 1980 when she and a friend took a ride home from a stranger after finishing the day at atkins high school in rural hall , north carolina - a town so quaint and wholesome that it was the model for the fictional mayberry in ' the andy griffith show .
her friend got dropped off first , but ronda never made it back home .
three days later , her partially clothed body was discovered in a heavily wooded area almost 20 miles away from the bowling alley parking lot where she and her friend had hitched a ride .

Table 4: The summary generated by the Seq2Seq-baseline model contains information repetitions, such as "the man who gave her a ride home that day was never found" is repeated. The summary generated by the Coverage model also contains repetitions, as well as non-salient information that shouldn't be included in the summary, such as "he told the girls his friends called him butch". The summary generated by our method contains more salient information, such as the description about "her friend got dropped off first , but ronda never made it back home".

Gold Reference: gillian nelson had complications with birth before being taken to theatre . widower recalls ' blur ' of staff as she ' bled heavily ' at hospital in bromley . had blood transfusion and hysterectomy but doctors ' ran out of options ' . southwark coroner 's court hears allegations of ' gaps in her monitoring ' .
Seq2Seq-baseline: james ramirez , 37 , said he has concerns over the care of gillian nelson . he was called to the princess royal university hospital at about 3.45am on january 28 , 2014 after she had gone in to labour. he stayed in the room with his wife until she was taken to theatre at about 6.30am.
Coverage: james ramirez , 37 , said he has concerns over the care of his wife gillian nelson , 34 , who died after complications arose with the birth of their son wesley at a hospital in bromley , kent . he was called to the princess royal university hospital at about 3.45am on january 28 , 2014 after she had gone in to labour . she had multiple cardiac arrests and was taken to theatre for a hysterectomy .
Our Method: james ramirez , 37 , said he has concerns over the care of his wife gillian nelson , 34 , who died after complications arose with the birth of their son wesley at a hospital in bromley , kent . asked about how he found his wife after birth , mr ramirez told london 's southwark coroner 's court : ' i would say she was delirious , spaced out , obviously tired . the court was told that miss nelson , a businesswoman , had been admitted for an induced delivery at princess royal university hospital , where she gave birth but was suffering bleeding .

Table 5: The Seq2Seq-baseline model reports several non-salient information about "james ramirez" and loses the main content about "miss nelson". The Coverage model also reports some non-salient information about "james ramirez". But our method successfully detects the salient information about "miss nelson gave birth while suffering bleeding" and "southwark coroner 's court".

Gold Reference: laura alicia caldero , 26 , removed from mamitas beach in playa del carmen . she claims she was sitting under a palm tree and was told to pay . local woman claims she was arrested when she refused to pay a fine . a council official claims ms caldero assaulted private guards .
Seq2Seq-baseline: laura alicia caldero , 26 , claims she was sitting under a palm tree on the mamitas beach in playa del carmen , mexico . according to friends of caldero , guards were preventing locals from going onto the sandy stretch , which is located in the tourist area of quintana roo in eastern mexico .
Coverage: the 26-year-old woman , laura alicia caldero , claims she was sitting under a palm tree on the mamitas beach in playa del carmen , mexico . guards were preventing locals from going onto the sandy stretch , which is located in the tourist area of quintana roo in eastern mexico .
Our Method: the 26-year-old woman , laura alicia caldero , claims she was sitting under a palm tree on the mamitas beach in playa del carmen when armed police forcibly removed her . according to friends of caldero , guards were preventing locals from going onto the sandy stretch , which is located in the tourist area of quintana roo in eastern mexico . the woman 's friends said she was arrested when she refused to pay a fine of about #70.

Table 6: Both the summary generated by the Seq2Seq-baseline model and the Coverage model loses the main information about "laura alicia caldero was arrested by armed police when she refused to pay a fine". Obviously, the summary generated by our method contains more salient information.

Gold Reference: julian lines was captured scaling a sheer cliff face in the cairngorms using only his fingers and feet for support . the 42-year-old , from northern ireland , said he has had some ' near misses ' in his nearly 30 years of solo climbing . but insists that ' life 's problems evaporate ' while edging towards the summit and describes climbing as ' simple ' .
Seq2Seq-baseline: julian lines was filmed completing the climb in the cairngorm , scotland . he is seen grappling to find footholds and handholds in the sheer rock face . mr lines was captured grappling to find footholds and handholds in the sheer rock face as he scaled the cliff .
Coverage: julian lines was filmed completing the climb in the cairngorm , scotland . the 42-year-old , who has been climbing for almost 30 years , is seen grappling to find handholds and footholds in the sheer rock face as he scaled the cliff . mr lines was captured grappling to find footholds and handholds in the cairngorms .
Our Method: sheer : julian lines , pictured in red , was filmed completing the climb in the cairngorm , scotland , using just his hands and feet for support . the 42-year-old , who has been solo climbing for almost 30 years , is seen grappling to find handholds and footholds as he edges towards the summit . but he admitted there had been times he had fallen and had ' really close calls ' .

Table 7: The summary generated by the Seq2Seq-baseline model contain information repetitions. The summary generated by the Coverage model also contains repetitions, and include some grammatical errors. The summary generated by our method eliminates repetitions and includes more salient information, such as "julian lines climbs using just his hands and feet for support". The summary generated by our method is also more coherent.

Gold Reference: typical heterosexual couples in britain are having sex three times a month . the figure in 2000 was four times a month and five times a month in 1990 . leading statistician says couples are checking their emails ' all the time ' .
Seq2Seq-baseline: research has revealed that the frequency with which britons are having sex has been in decline since the emergence of the internet . this was compared to four times a month in 2000 and five times a month in 2000 and five times a month in 1990 .
Coverage: research has revealed that the frequency with britons are having sex has been in decline since the emergence of the internet . it comes after professor david spiegelhalter , a statistician at cambridge university , revealed in a new book how a typical heterosexual couple was now having sex three times a month .
Our Method: research has revealed that the frequency with which britons are having sex has been in decline since the emergence of the internet . it comes after professor david spiegelhalter , a statistician at cambridge university , revealed in a new book how a typical heterosexual couple was now having sex three times a month . this was compared to four times a month in 2000 and five times a month in 1990 , according to research published in prof spiegelhalter 's book sex by numbers.

Table 8: The summary generated by the Seq2Seq-baseline model loses the information about "three times a month now", so the sentence "this was compared to four times a month in 2000 and five times a month in 2000 and five times a month in 1990" is not coherent with the former sentences. The Coverage model loses the salient information about "the figure in 2000 was four times a month and five times a month in 1990" . Obviously, the summary generated by our method contains more salient information and is also more coherent.

Gold Reference: brandon afoa , 33 , of puyallup was operating a tug to push back aircraft at seattle-tacoma international airport when the brakes and steering failed , causing him to crash into a luggage lift . the incident , which took place on december 26 , 2007 , left afoa unable to use his legs or right arm . for years the case was locked in courts because the port of seattle claimed it was n't liable as afoa worked for a private company . however , the state supreme court ruled the airport operator had a ' duty ' to provide a safe working environment . a jury awarded the judgment on tuesday .
Seq2Seq-baseline: brandon afoa , 33 , of puyallup , washington , was operating a tug to push aircraft at seattle-tacoma international airport when the brakes and steering failed , causing him to crash into a luggage lift . the incident , which took place at 2am on december 26 , 2007 , left afoa unable to use his legs or right arm . much of his intestinal tract also had to be removed by surgeons .
Coverage: brandon afoa , 33 , of puyallup , washington , was operating a tug to push aircraft at seattle-tacoma international airport when the brakes and steering failed , causing him to crash into a luggage lift . the incident , which took place at 2am on december 26 , 2007 , left afoa unable to use his legs or right arm . much of his intestinal tract also had to be removed by surgeons .
Our Method: brandon afoa , 33 , of puyallup , washington , was operating a tug to push aircraft at seattle-tacoma international airport when the brakes and steering failed , causing him to crash into a luggage lift . the incident , which took place at 2am on december 26 , 2007 , left afoa unable to use his legs or right arm . but for years the case was locked in the courts because the port of seattle claimed it was n't liable for what happened as afoa worked for a private firm .

Table 9: Both the Seq2Seq-baseline model and the Coverage model reports non-salient information about "much of his intestinal tract also had to be removed by surgeons" and also lose much salient information. Our method can detect more salient information from the document, such as information about "for years the case was locked in the courts because the port of seattle claimed it was n't liable for what happened as afoa worked for a private firm", and also filter those non-salient information.

Gold Reference: isis leadership is dominated by former members of hussein 's iraqi army .
many joined the terror group in the insurgency after the fall of the dictator .
u.s. had barred the men taking government jobs or drawing their pensions .
generals ' military experience has been key to the terrorists ' spread in iraq .
their connections with oil smugglers also help isis raise 2 billion a year .
Seq2Seq-baseline: almost all of the highly secretive officials overseeing the day-to-day running of the islamic state are former members of saddam hussein 's army .
one of the most prominent former iraqi army generals within isis was abu muslim al-turkmani who led the terrorists ' operations in iraq until he was killed in an american airstrike last november .
Coverage: isis ' leadership is dominated by ex-members of the military of saddam hussein
despite thousands of foreign fighters flocking to join the sunni extremist group and starring in their propaganda videos , isis ' leadership is dominated by ex-members of saddam hussein 's army .
Our Method: despite thousands of foreign fighters flocking to join the sunni extremist group and starring in their propaganda videos , isis ' leadership is dominated by ex-members of the late iraqi dictator 's military .
almost all of the regional commanders appointed by isis ' leader and self-declared caliph , abu bakr al-baghdadi , played prominent roles in the baathist army before the 2003 invasion of iraq and became involved with isis either in the resulting insurgency or after the dictator 's 2006 execution .
one of the most prominent former iraqi army generals within isis was abu muslim al-turkmani who led the terrorists ' operations in iraq until he was killed in an american airstrike last november .

Table 10: The Seq2Seq-baseline only reports few information. The summary generated by the Coverage model contains repeated information about "isis ' leadership is dominated by ex-members of saddam hussein 's army" and also contains few information. Our method can detect more salient information from the document, such as information about "many became involved with isis either in the resulting insurgency or after the dictator 's 2006 execution".

Gold Reference: 2006 big brother winner pete squandered prize money on ketamine .
he is now clean but homeless - and tells jeremy kyle he wants act .
we look back at the fates of other winners of the reality tv show .
some work in showbiz , while others returned to everyday life .
Seq2Seq-baseline: pete bennett says he squandered his prize cash on ketamine and is now homeless .
the liverpudlian , now 43 , developed a construction training academy in the north west in 2006 and now works as a presenter and property developer .
the liverpudlian , now 43 , developed a construction training academy in the north west in 2006 .
Coverage: pete bennett says he squandered his prize on ketamine and is now homeless .
he says he squandered his prize on the animal tranquiliser ketamine and is now homeless , spending each night sofa surfing .
coming first can certainly make or break big brother contestants ' careers - and lives .
Our Method: the big brother winner , 33 , from brighton , won a dream # 100,000 after coming first in the seventh series of the channel 4 show in 2006 .
but the troubled star says he squandered his prize cash on the animal tranquiliser ketamine and is now homeless , spending each night sofa surfing .
nine years on the tourette 's sufferer says his condition has calmed down and he wants to crack hollywood as an actor .

Table 12: The Seq2Seq-baseline model reports some non-salient information, such as "the liverpudlian , now 43 , developed a construction training academy in the north west in 2006". Both the summary generated by the Seq2Seq-baseline model and the Coverage model also suffers from serious information repetitions. The summary generated by our method contains more salient information, such as the information about "his condition has calmed down and is now clean" and "he wants to act" .

Gold Reference: jackie ward witnessed the family of four have racial slur shouted at them while they were out for the day on friday .
shay stewart-bouley , who is black and runs a blog called black girl in maine , was with her white husband and their daughter , 9 , and son , 23 .
car of unidentified white males drove past as one shouted ' hey n*****s ! '
ward said she shared the story to remind people to be kinder to each other .
Seq2Seq-baseline: a family of four was enjoying a day out together in portland , maine when a white man yelled a racial slur at them before speeding off .
the man was in a car filled with a group of young white men when he screamed ' hey n*****s ! ' at them on friday and drove away .
several bystanders witnessed the incident , including a local news reporter for wcsh 6 and wlbz 2 , jackie ward .
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Coverage: family of four was enjoying a day out together in portland , maine when a white man yelled a racial slur at them before speeding off .
the man was in a car filled with a group of young white men when he screamed ' hey n*****s ! ' at them on friday and drove away .
several bystanders witnessed the incident , including a local news reporter for wcsh 6 and wlbz 2 , jackie ward .
Our Method: a family of four was enjoying a day out together in portland , maine when a white man yelled a racial slur at them before speeding off .
the man was in a car filled with a group of young white men when he screamed ' hey n ***** s ! ' at them on friday and drove away .
she shared her account of the story on facebook , as a ' reminder for us to be kinder to each other .

Table 11: The Seq2Seq-baseline model reports repeated and non-salient information about "several bystanders witnessed the incident". Our method successfully detects and reports the salient information about "ward shared the story on facebook to remind people to be kinder to each other", which has been lost by both the Seq2Seq-baseline model and the Coverage model.

Gold Reference: charlotte cobbald , 17 , was visiting family farm in suffolk while being treated in a mental health unit .
she said she felt like a ' failure ' and injected herself with animal drugs .
told her father ' leave me to die ' and paramedics were unable to revive her .
Seq2Seq-baseline: charlotte cobbald , 17 , took the deadly medicine , which her father stephen was keeping illegally , and injected it after saying she felt like a ' failure ' .
she then ran away from her father , saying ' let me die ' , before she collapsed in a field and her family called 999 .
paramedics fought to save her and took her in an ambulance to hospital , but charlotte died from the effects of the drug .
paramedics fought to save her and took her in an ambulance to hospital .
Coverage: charlotte cobbald , 17 , took the medicine , which her father stephen was keeping illegally , and injected it after saying she felt like a ' failure ' .
she then ran away from her father , saying ' let me die ' , before she collapsed in a field and her family called 999 , an inquest heard .
charlotte was visiting the family farm in acton , suffolk while on day release from a mental health unit where she was treated for anorexia and depression .
Our Method: charlotte cobbald , 17 , took the deadly medicine , which her father stephen was keeping illegally , and injected it after saying she felt like a ' failure ' .
she then ran away from her father , saying ' let me die ' , before she collapsed in a field and her family called 999 , an inquest heard .
paramedics fought to save her and took her in an ambulance to hospital , but charlotte died from the effects of the drug .

Table 13: The summary generated by the Seq2Seq-baseline model contain information repetitions, such as "paramedics fought to save her and took her in an ambulance to hospital". The summary generated by the Coverage model reduces repetitions, but include some non-salient information such as "charlotte was visiting the family farm in acton , suffolk while on day release from a mental health unit where she was treated for anorexia and depression". The summary generated by our method eliminates the non-salient information and includes the salient information about "charlotte died from the effects of the drug" .