

8 Appendix

8.1 Dataset Examples

We display input and target examples for ELI5 and WikiSum in Figure 8 and Figure 9 respectively.

8.2 Generation Examples

We display examples of model generations for ELI5 and Wikisum, selected randomly, in Figure 10 and Figure 11. Similar to (Liu et al., 2018b), we observe that our models are also capable of generating full Wikipedia pages. We display randomly sampled examples of Wikipedia article generation in Figure 12.

8.3 Implementation Details

Training We train models using the Transformer Big architecture with the following parameters: dropout 0.1, attention dropout 0.1, an inverse square root learning rate schedule with initial learning rate $1e^{-7}$ for warmup, 4000 warmup updates, and a minimum learning rate of $1e^{-9}$. We train with fp16 and small batchsize to scale to longer sequences. To offset the batchsize decrease, we increase the update frequency of the gradient updates.

Generation We generate using beam search of size 5. We tune a minimum and maximum length at validation time, and use minimum length 200 and maximum length 500. We use a n-gram constraint of $n = 3$ following (Fan et al., 2019).

Question: Why consumers are still so terrified of genetically modified organisms (GMOs), yet there is little debate in the scientific community of whether they are safe or not. (Scientists are for GMOs)

Beginning of Web Search: The controversial safety of gmos and the skepticism of the use of gmos College paper Writing Service URL_0. diamond chemicals plc the merseyside. appendix f research question for. antisocial personality disorder affects family relations and interactions. The controversial safety of gmos and the skepticism of the use of gmos. Gmo facts what is a gmo genetically modified organisms the safety of gmos is unknown poll: skepticism of genetically modified foods abc news abc news network, 19 june 2015 web fernandez-cornejo, jorge, and seth james wechsler. The controversy over gmos, particularly in food continues: scientists are split pros and cons of gmo's september 28 and environmentalists and consumer groups remain unconvinced about the safety of gmos. The controversy around genetically modified foods on the surface, food evolution is a resetting of the controversial conversation around genetically modified organisms (gmos) we just ask people by a show of hands to tell us are they concerned about gmos for their own safety or the. When gmos are the movie star can documentaries on controversial science be entertaining and the message is that gmo food is safe to eat and that naysayers are. Genetically modified organisms (gmos) the top five anti-gmo tropes gmos are genetically modified organisms the evidence on gmo safety by ramez naam. Genetically modified organisms what are gmos with the use of gm technology, pure and safe equivalents can be produced using gmos and industrial scale. Here's a bullet-point summation of what nathanael johnson learned about gmos in 2013 20 gmo questions: animal, vegetable, controversy by pretty darn safe. The controversy surrounding genetically modified organisms what do we tolerate as far as detrimental this would be a profound service to scientific skepticism with regards to gmos current gmos are safe to eat- however [...]

Target Answer: There is little difference in essence between what is called GMO now and the techniques we have been using to domesticate and cultivate the food in the past. Its an arbitrary line that's been drawn in the sand and people fail to realize this often. That being said I think it is more then wrong the patenting of crops and again even more then wrong to genetically modify crops to not have viable seeds so that seed-washing can't be used to grow the next crop. So the real god damned issues are being masked and lost by this retarded polemic between GMO and more conventional genetic modification of organisms.

Figure 8: Example of ELI5 Dataset Input-Output

Title: dwight h. perkins (economist)

Beginning of Web Search: memorial minute adopted by the faculty of arts and sciences, harvard university: abram bergson, john kenneth galbraith, carl kaysen, raymond vernon, dwight h. perkins, chairman. ed was a generous and understanding man who could see the good qualities in people and bring them out. he was always determined and persistent, which meant that he also saw to completion what he started . the list of projects, large and small, that he led is long. in 1946 he was one of the authors of the speech of secretary of state james byrnes in which the secretary announced the return of responsibility for the german economy to the germans. in 1956, he, together with ray vernon, did a pioneering study of the new york metropolitan region, a study that tried to identify the economic, political and social forces that were shaping that vast urban area. at the time the problems of urban areas were mainly the concern of architects and philosophers; almost no economist and only a few political scientists knew much or cared greatly about such issues. the studies that resulted provided rich fare for a generation of urban planners to follow. mason, edward s.(1899-1992) — harvard square library home biographies mason, edward s.(1899-1992) mason, edward s.(1899-1992) edward sagendorph mason was a member of the first parish unitarian church in harvard square who exemplified liberal religion in both thought and action. in addition to his notable contributions to the science of government, he served as chairman of the sloan commission on cable communication which issued recommendations for the future, on the cable. [...]

Target Lead Paragraph: dwight heald perkins (born in chicago, illinois in 1934) is an american academic, economist, sinologist and professor at harvard university. he is the son of lawrence bradford perkins, architect, and margery blair perkins and the grandson of dwight heald perkins, the architect, for whom he was named. he married julie rate perkins in 1957 and they have three adult children. == early life == perkins earned an undergraduate degree at cornell university in 1956. after two years military service in the us navy, perkins resumed his studies at harvard. he earned a ma in economics in 1961 and a ph.d. in economics in 1964. his doctoral thesis was "price formation in communist china". == academic career == perkins' teaching career at harvard began when he was still a graduate student, and continued uninterrupted through 2006 when he became a research and emeritus professor. he was a member of both the department of economics of the faculty of arts and sciences at harvard and of the harvard kennedy school. [...]

Figure 9: Example of WikiSum Commoncrawl Dataset Input-Output

Question: Why is touching microfiber towels such an uncomfortable feeling?

True Answer: Do you mean the kind of cloths used to clean glasses and lenses? I've never noticed any uncomfortable feeling myself, but I do find touching certain cleaning cloths can be quite uncomfortable. There's a brand called "e - cloth" which market themselves as not needing any cleaning supplies. Basically the threads have tiny little hooks and barbs in them, so dragging them over skin makes you feel like it 's catching against you.

Generation: The microfiber is made up of a bunch of tiny fibers that are attached to them. When you touch them, the fibers that make up the microfiber are attracted to each other. When they touch, they're attracted to the other end of the fiber, which is what makes them feel uncomfortable.

Question: What happened to needing "www" in front of an address?

True Answer: Explaining like If you were 5: You know when you send a package in the mail, you write the address and maybe, If the package is "Fragile" you'll stamp "FRAGILE" all over it. Why don't you also stamp "NOT FRAGILE" on the packages that are not fragile? Because It's implicit. If you don't say anything the mailman knows It's not fragile. Same thing goes for the WWW. Since you can have multiple services on your domain (ex: URL_0 which means you want to share files; or URL_2 which means you want to access the mail server on that domain) in the beginning you'd also write "URL_1" to state that you wanted to access the HTML of the server. As the web evolved and 99% of the average user wants to access the HTML version of the website, website owners no longer require you to type "URL_1" instead, If you type "URL_3" they assume you want to access the HTML version. Just like you don't need to stamp "NON FRAGILE" on your package, you don't need to type "WWW". Everyone assumes that's what you want If you say nothing otherwise.

Generation: The "www" is a subdomain name that is used to refer to a web page. It's a name used to describe the web page that you're looking for. For example, if you want to go to URL_0, you can go to URL_1, and then go to URL_2. The www is the name of the site that you are looking for, and it's the name that you were looking for in the first place. So if you wanted to go back to URL_2, you could go to URL_4, and go to URL_3, and the www would be the same as the www, but it would be a different name for the site. So, if the www was the same, you would be looking for a different site, and you wouldn't be looking at the same site, so you would have to go through the www. If the www were the same and you weren't looking for the same page, you'd have to look for the different sites, and so on. But if you were to go from URL_1, you might have to use the www as a reference to the site, but you'd still have to have a www.

Question: Why do we have nightmares when stressed out?

True Answer: I can tell you that your mind, and in particular your dreams, are subject to the input that it the journey of your life, as you have interpreted it. Yours dreams tend to be your subconscious representing issues you have within, whether it be past or present, with things and people that are sort of "preinterpreted symbology" from your deep and ever power subconsciousness. All your nightmares are just dreams, and your inner mind knows exactly can mess with you the most, and sometimes it brings that to light, it usually being an issue you may be stressed about.

Generation: When you're stressed, your brain releases a hormone called cortisol. This hormone is released by your adrenal glands, and is released when you are stressed. This is why it's called "fight-or-flight" mode. When your body is stressed, it releases hormones that make you feel more stressed. The reason why you don't feel stressed is because your brain is trying to get rid of the stress hormone, which causes you to feel stressed, and you're less likely to get stressed. If you're really stressed, you're probably going to be more stressed than if you weren't stressed.

Figure 10: Random Examples of Question-Generated Answer Pairs in ELI5

Title: wylie rogers

True Paragraph: wylie rogers (born march 16, 1985) is an american ice hockey goaltender. he played with the rio grande valley killer bees of the central hockey league. prior to turning professional, rogers attended the university of alaska fairbanks where he played four seasons of ncaa men's division i ice hockey with the alaska nanooks men's ice hockey team. rogers played the 2010-11 season in the netherlands with the heerenveen flyers.

Generation: wylie rogers is an american football coach and former player. he is currently the head football coach at the university of north carolina at chapel hill. rogers played college football at north carolina state university. he was a member of the north carolina tar heels men's football team that won the ncaa division i football championship in 2012. he also played for the university's men's basketball team. after his playing career ended, rogers was hired as the head coach at unc chapel hill in 2013. he led the tar heels to their first ncaa division ii championship in 2015.

Title: mustabad

True Paragraph: mustabad is a village and mandal in siricilla rajanna district in telangana state of south-east india. musthabad is the main town for the mustabad mandal. musthabad is located 26,160; km distance from its district main city, siricilla. it is located 128,160; km distance from its state main city, hyderabad. == geography == mustabad is located at 18.2787 °n 78.7108 °e.

Generation: mustabad is a village in the indian state of telangana. it is located in the region of mustabad mandal. mustabad was founded in the early 1970s by a group of local businessmen, who wanted to create a village for the people of the region. the village is named after the mustabad river, which is a tributary of the larger river. according to the 2011 census of india, mustabad had a population of 1,050.

Title: wolf valley

True Paragraph: wolf valley is a graben rift valley in the elsinore trough, in western riverside county, california. wolf valley is the southernmost of the graben valleys making up the elsinore trough, created by the elsinore fault zone. it lies between the wildomar fault on the east, at the foot of the temecula basin and the willard fault on the west, at the foot of the santa ana mountains. wolf valley lies south of temecula creek. the southern end of the graben valley is where the elsinore fault zone changes the direction of strike along the southern side of agua tibia mountain, northeast of pala mountain. the valley is drained by pechanga creek and its tributaries, itself a tributary of the santa margarita river. the pechanga indian reservation and part of the city of temecula is located in this valley. head of wolf valley 33 °26 38 n 117 °03 46 w mouth of wolf valley 33 °28 26 n 117 °07 03 w

Generation: wolf valley is a valley in the u.s. state of california. it is located in the foothills of the sierra nevada. the valley was named after the wolf river, which flows through the valley. wolf valley was the site of the battle of wolf valley, which took place in the late 19th and early 20th centuries. the battle was fought in the early 20th century, and the valley now holds the wolf valley war memorial.

Figure 11: Random Examples of Lead Paragraph Generation in WikiSum

kokal kokal is a village in kollam district in the state of tamil nadu, india.

== demographics ==

as of 2001 india census, kokal had a population of 1,051

== transport ==

kokal railway station is located at kokal junction. the station is well connected to other parts of the state by road. the nearest airport is at tiruchirappalli.

== education ==

the primary and secondary school education is imparted by government, aided and private schools. the medium of instruction followed by different schools are english, telugu, malayalam and other languages.

== in popular culture ==

in the film, the character of the protagonist of the film is played by a character named kokal. in the movie, the protagonist is portrayed by a. k. ramachandran, who is also the protagonist.

== in other media ==

the village has a tv station called kokal - kokal which is a part of the local tv station. the village also has a radio station called kollam radio which is the local radio station of the same name. the radio station is also called "kollam fm" and is known as the station's main radio station.

donald milne donald milne is a canadian politician. he is a member of the legislative assembly of british columbia, representing the electoral district of vancouver. milne was born in vancouver, british columbia. he was elected to the british columbia house of commons in the 2014 provincial election, defeating liberal candidate and former mayor of vancouver, david campbell.

== electoral record ==

by - election results == 2014 == 2015 == 2016 == 2017 == 2018 == 2019 == 2020 == future ==
milne will be a candidate for vancouver city council in the 2018 provincial election.

== personal life ==

milne lives in vancouver with his wife and two children.

== awards and honours ==

milne was a recipient of the queen elizabeth ii diamond jubilee medal from the queen's birthday honours in 2014. he also received the order of the british empire in the 2016 birthday honours for services to british columbia and the community in british columbia in the 2015 birthday honours. milne is also a fellow of the royal canadian academy of arts and sciences and the royal society of canada (rbc) and is a past president of the vancouver chapter of the rbc society of arts sciences. in 2016, milne was awarded an honorary doctor of laws degree by the university of vancouver in recognition of his service to the community and his contribution to the development of vancouver's arts and science as a leading figure in the vancouver art scene. in 2017, he was awarded a lifetime achievement award by the vancouver arts council for his work on vancouver art and science, as well as an honorary doctorate of laws (honoris causa) from the royal college of art and sciences, university of toronto in the 2017-18 academic year.

decimiana decimiana is a genus of flowering plants in the legume family, fabaceae. species include: decimiana acuminata (f. muell.) benth. ex benth - ecuador, peru, bolivia, brazil decimiana angustifolia benth.

== species ==

there are currently two species in this genus, decimiana acutifolia and decimiana costata, which are native to ecuador and peru, but are now considered a separate species. the following is a list of species of this genus in the world, including: decimiana borealis benth (ecuador, colombia), decimiana cunninghamii benth (ecuador, bolivia) some of these species are listed in the iucn red list of threatened species. the others are listed as endangered species by the international union for conservation of nature (iucn), and are listed on the endangered species list by the united states department of agriculture (usda). a few of the species of a. albiflora are listed by the iucn as endangered or threatened species, but they are now listed as critically endangered.

== the others ==

the other members of the family are listed under the iucn's red list, but the other two are listed separately as endangered. the other three are listed together as endangered and listed as vulnerable species.

Figure 12: Random Examples of Full Wikipedia Generation in WikiSum.