# Supplementary File: TVQA: Localized, Compositional Video Question Answering 

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## A Supplemental Material

## Questions and Answers:

Fig. 1 shows the distribution of question lengths. Most of our questions are longer than 10 words. Fig. 2 shows a pie distribution of our first-part question words, as well as the associated second-part question words. We see that 'what' accounts for a large portion for the first part, i.e., what (Abstract, Object, Action), and 'when' is more often used for moment localization in the second part. Fig. 3 shows the distribution of answer lengths. Note there is no peak answer length in TVQA, thus understanding the variable-length answers is also crucial for TVQA question-answering.


Figure 1: Distribution of question lengths.


Figure 2: Distribution of questions by their first words and link words.

More QA examples: We show more examples using our $\mathrm{S}+\mathrm{V}+\mathrm{Q}$ joint model trained on full-length video and subtitle in Fig. 4, where the top three


Figure 3: Distribution of answer lengths.
rows show the correct answers made by our model and the bottom two rows show the wrong ones.

| Character | Top unique nouns |
| :--- | :--- |
| Derek | Anna, MRI, today, tumor, black, desk, <br> car, area, trailer, procedure, ice |
| Cristina | Colin, dress, leg, Doug, Deborah, wedding, <br> choker, restroom, lab, pad |
| Izzie | Cheyenne, check, Jilly, sweater, Heather, <br> bathroom, lunch, sheet, beast, condition |
| Burke | surgeon, valve, pole, cap, fishing, point, <br> situation, look, flower, pressure, breakfast |
| Meredith | Susan, thatcher, mom, counter, Dylan, <br> boyfriend, band, sister, step, Molly |
| George | mackie, Sophie, conference, west, mercy, <br> box, stairwell, pocket, bottle, morning |
| Bailey | Viper, son, clinic, clipboard, gesture, binder, <br> Kelley, razor, scalpel, sex, piece, twin, Judy |
| Addison | Naomi, ring, Sam, news, rose, Lisa, station, <br> kid, ultrasound, pink, monitor, concern |

Table 1: Top unique nouns for characters in Grey.

| Character | Top unique nouns |
| :--- | :--- |
| Ted | class, girlfriend, tattoo, movie, architect, <br> Jen, word, Hammond, airport, student |
| Lily | gift, purse, dress, kitchen, water, card, tree, <br> plan, Judy, credit, mouth, paint, bedroom |
| Barney | James, Jerry, Nora, suit, brother, Bob, <br> Sam, strip, cigar, way, fist, street, tie |
| Marshall | sandwich, brad, burger, Jeff, money, <br> song, work, Marvin, laptop, school, |
| Zoey | landmark, thanksgiving, cousin, tape, <br> husband, spot, bit, turkey, text, recording |

Table 2: Top unique nouns for characters in HIMYM.

Top unique nouns for characters: We show the top unique unique nouns for characters for Grey and HIMYM in Tab. 12.


00:23.179 --> $>00: 26.307$
(Alvie:) Yo, I don't need
(Avie:) $\mathrm{Yo}, \mathrm{I}$ dont need an escort. Get off me
(Alvie:)Who are you? You believe these guys?

What does Alvie say when he is being brought into the room with House
a0 Go Away
${ }_{\text {al Get Off Me }} \sqrt{\text { a0 }}$
a2 Leave me alone
a2 Leave me al
a3 Goodbye
a4 Hello
(a)


01:10.131 --> 01:12.292
(Meredith:)I was swimming
$01: 12.367$ mo> 01:14.358
(Meredith:)I was fighting.
(Meredith:)And then I thought, just for a second..
What was behind Meredith when she said she was swimming?
a0 A painting
al A couch
a2 A metal shelf $\sqrt{ }$
a3 A file
(c)


00:43.677--->00:47.875
(Callie:)When youput your freshly severed finger into a grungy,
bacteria-filled glove ,
bacteria-filled glove,
(Callie:)- you got a severe infection

- What?

What was wrong with Heath 's hand before he put it into the glove?
a0 He couldn't feel his finger
al His finger had been freshly severed $\sqrt{ }$
a2 His hands were cold
a3 All of Heath 's fingers were cut off
a4 He had been shot in the hand
(e)


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00:06.426 --> 00:07.778
(Captain:)of my becryer is
00:10.994 --> 00:13.644
(Captain:)when I tell you who it is, you're gonna
00:16.674 --> 00:17.954
(Captain:)It's my doorman!
What is captain holding in his hand when he tells Ted that he believes his doorman is his betrayer?
a0 A mace and chain \(\sqrt{ }\)
a1 A snake
\({ }^{a} 2 \mathrm{An} \mathrm{Ax}\)
a3 A sworc
a4 A gun
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(g)

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I guess this chair's mine now.
00:05.723 --> 00:07.276
(Chandler:)Joey, you broke my chair!
(Rachel:)Your chair?
(Rachel:)Your chair
What does Joey do when he said he guesses this chair was his?
a0 He sits on the chair
a1 He stands up $\sqrt{ }$
a2 He walks over to Chandler
a3 He picks up the phone
a 4 He picks up a sandwich

(Leonard:)Aw
Leonard:)Aw.
00:13.835 $-\gg 00: 15.544$
(Penny:)So handsome.
Penny:)Like James Bond.

What was Leonard wearing when he walked into the room with Amy
Penny and Sheldon?
a0 A button down shirt with a vest
al A pinstriped suit
a2 A track suit
a4 A clown costume
(b)


00:00.566--> 00:03.700
(Sheldon:)I'm sensing awkwardness, am I right?
00:03.702 --> 00:05.669
(Howard:) Yes.
00:05.671 -->> 00:07.737
(Sheldon:)Swish.

Where is Amy when Sheldon asks her if he is sensing awkwardness?
a0 Amy is sitting on Penny 's lap
al Amy is sitting on Howard 's lap
2 Amy is sitig
4 Amy is leaning against the front door
(d)


00:12.275--->00.--
(Derek:)Cristina write her vows?
0.月 ) Coll 15.87
(Burke:) I guess 1 Il find out tomorrow.
(Burke:)- How's Meredith doing?
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Who does Burke ask Derek about when they are eating peanuts?
a0 Burke asks about James
al Burke asks about Meredith $V$
a2 Burke asks about Addison
a3 Burke asks about Cristina
a4 Burke asks about Bailey
(f)


00:09.140 --> 00:12.980
(Sheldon:)Excuse me, Penny, but Doodle Jump is a game.
0:12.980 --> 00:15.650
(Sheldon:)Angry Birds is a game
(Sheldon:) World of Warcraft is a

How did Sheldon wear his watch when he was talking to Penny?
a0 He was wearing it on his left wrist
al He was wearing it on his right wrist
a2 He didn't have a watch
a3 He was wearing it on his left ankle
a 4 He was wearing it on his right ankle
(h)


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(Derek:)Follow my finger. Up, down. Side to side...
01:07.439 --> 01:10.237
(Derek:)Good. Let me know if you can feel this, OK?

## How many men were in the beds in the room when Derek and Preston were examining them? <br> a1 2 V a 25 <br> a2 5 a3 a4 6

Figure 4: More examples from TVQA dataset, along with the predictions from our best model. Ground truth answers are highlighted in green, and model predictions are indicated by $\checkmark$. Best viewed in color.

