One of the biggest topics of discussion was, of course, how Watson chose these answers. While answering a Jeopardy! question requires dozens of complex algorithms and a massive bank of stored knowledge (to the tune of 15 terabytes of RAM), the real power behind Watson lies in its ability to understand the question. The onus obviously could not work its magic without a hefty supply of language-processing algorithms that Watson makes use of.

While Deep Blue represented what could be done with enough processing power behind it, as a single question can result in several interpretations, each of which has hundreds of possible answers. In turn, each answer is supported or refuted by thousands of pieces of evidence, all of which can be interpreted hundreds of ways. The fact that Watson can find and process this amount of information in about three seconds shows how far computing has come since IBM's other famous super computer, Deep Blue, defeated world champion Gary Kasparov in chess in 1997.

Here, though, Murdock believed that comparing Deep Blue and Watson is like comparing apples to oranges. While Watson obviously could not work its magic without a hefty supply of hardware, the real stars of the show are the learning, search and language-processing algorithms that Watson makes use of.

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Joe and Jane Smith, a couple from New York, enjoyed a day in the park. They spent time playing frisbee, reading a book, and taking a walk along the lake. Joe, a software engineer, was particularly impressed by the latest technology used in the park's information kiosks. Jane, a historian, appreciated the historical markers that detailed the park's past. They both agreed that the park was a perfect place for a relaxing day out.

The Smiths plan to return to the park next weekend to continue their enjoyment of nature and technology.
Rotc reinforces commitment, skills

By Divya Varahabhatla

The Reserve Officers’ Training Corps (ROTC) program here at Tech is an option for students who wish to serve in the U.S. military. Tech offers ROTC branches in the Navy, the Marines, the Army and the Air Force. The Army ROTC was established at the school in 1917.

In a statement on the Navy ROTC’s website, it was written that, “more than 7,000 lieutenants have received their commission from the Yellow Jacket Battalion, including two winners of the Congressional Medal of Honor. Alumni have served in every campaign from World War II, Korea, Vietnam, the Cold War, and more recent operations including Desert Storm, Operation Enduring Freedom.”

The NROTC division began in 1926 at Tech as the first of 6 similar university units.

The ROTC program rewards its students based on merits and requires the students to take basic calculus and physics courses. There is also mandatory physical training which “helps [personnel] maintain a healthy lifestyle… Cadets are often responsible for not only executing their own PT, but planning and supervising the PT of their subordinates while constantly observing for safety and the well being of everyone involved.”

Some famous alumni from the ROTC include Lieutenant Colonel Boyd Parsons, ISyE ’71; former Georgian Governor, U.S. President and Nobel Prize winner Jimmy Carter and Captain John W. Young, USN (Retired) AE ’52 AE who became “the world’s most experienced space traveler with two Gemini missions, two Apollo missions and two Space Shuttle missions.”

ROTC Students have many opportunities for leadership, scholarship and training. The NROTC battalion Public Affairs officer Ben Wattam, a third-year MGT major, mentioned that his military background influenced his decision to join. Most ROTC students indeed have a military background. Some of the benefits offered through the program include full health care, a scholarship for college and 50 percent pay after retirement.

However, more than monetary benefits, Wattam noted that most students join the ROTC because they want to serve. “Someone has to do it,” Wattam said about the fear and thought process behind the decision. While a person could easily extract the information from either sentence, writing a computer program that could extract it from sentences like the second is a challenge that was only solved recently.

An overarching theme of the talk was how Watson struggled with concepts a human would find easy but excelled in other areas. Murdock discussed several incorrect answers Watson gave and the reasoning behind why Watson made mistakes.

For example, one of the questions on the show asked about a physical oddity of George Eyser, a gymnast in the 1904 Summer Olympics. While most humans would have trouble quickly pulling together what information (if any) they knew about the topic at hand, according to Murdock, the legs showed that Watson almost immediately found a passage that said, “George Eyser’s left leg was made of wood.”

However, Watson was unable to understand what about this was an “oddity;” and, as a result, chose “leg” as its answer, rather than the correct answer, “wooden leg.”

As for where Watson will go next, it’s no secret that IBM wants to see a Watson-like system put into place somewhere in the medical industry.

With the large number of variables that can go into diagnosing a disease, and the fact that it is impossible for a person to accurately keep track of the enormous base of medical knowledge available, Watson’s engineers feel that medicine is a field that Watson could flourish in.

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Computing power, Watson represents what can be done by using that power in conjunction with the newest, most powerful algorithms in learning.

According to Murdock, one of the biggest advances Watson represents is the ability to handle ambiguity. Again, the comparison to Deep Blue came up, this time in terms of how their challenges were different. “Real language is real hard…” In chess, you had a finite, well-defined search space [with explicit, unambiguous mathematical rules, but that’s not the case here,” Murdock said.

Murdock described how, compared to chess, natural language processing is an incredibly difficult computing problem, due (among other things) to the ambiguity inherent in human language.

As an example, Murdock gave two sentences, both of which contained the same fact: that someone named Jack Welch was once the head of G.E. However, each sentence revealed that knowledge differently.

While the information in this sentence can be stated simply as “Jack Welch ran G.E.,” the same sentence reveals that knowledge differently. While the information in this sentence can be stated simply as “Jack Welch ran G.E.,” the same sentence reveals that knowledge differently.

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Many current members of the ROTC join the program at Tech as a sign of their commitment to protecting their nation in the future. The ROTC program rewards its students based on merits and requires the students to take basic calculus and physics courses. There is also mandatory physical training which “helps [personnel] maintain a healthy lifestyle… Cadets are often responsible for not only executing their own PT, but planning and supervising the PT of their subordinates while constantly observing for safety and the well being of everyone involved.”

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He said that his biggest fear in his service is not the commitment to defending the country. “[My big fear is] going out to leave what you’re used to and also how things can change while you were away,” Wattam said.

Wattam hopes to become a pilot for the Navy.

Midshipman David Klotz, a third-year MGT major, began at the naval division of the ROTC in 2008. Klotz also hopes to be a pilot once he graduates. “[The program] also lets you have a normal college experience that is more similar to what life will be like…ROTC classes are also way smaller than Naval Academy classes, so students get more opportunities to lead and learn by doing,” Klotz said.

Still, Klotz has had to make several adjustments since joining. “I put on about 20 pounds of muscle. [I] have developed leadership skills and confidence that will be of great value to me for the rest of my life,” Klotz said.

Klotz believes there are other benefits to the program as well. “[My favorite part of NROTC was] getting sent around the world to go on training ‘cruises.’…I got to spend three weeks on it watching jets and learning about aviation from pilots,” Klotz said.

He has had the opportunity to go to a carrier which operated in the Arabian Sea.

Wattam had a different favorite aspect of the group. “[My favorite part is] the people I meet, whether they are older lieutenants or classmates…[who] share your ideals and principles,” Wattam said.

Students on campus do not realize what ROTC students do. “Whenever people see us, they don’t really know who or what we are or what to make of us. The bigger issue is that people have little to no idea why we’re here, what we do and what we’re training to do,” Klotz said.

Wattam and Klotz both noted the compatibility of the quality of education at Tech and the quality of the ROTC programs offered here. “I believe that it is also due to the reputation that Tech has for its rigorous academics… Many from Georgia Tech’s NROTC go very far in the Navy,” Klotz said.

Wattam attributed some of the skills he has developed from ROTC and Tech classes, such as time management and the ability to work under pressure, as abilities that have helped him in the past few years. “[The training emphasizes] attention to details and being on time push us towards excellence,” Wattam said.

Many students feel that their Tech education is supplemented with different types of life skills developed in the ROTC program.