

# STEMBoost Newsletter



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## May Updates!

### Joseph Lee, Chief Editor

On May 20, Kennedy Middle School won 1st place at the Science Olympiad National Competition held at Wichita State University, earning them the distinguished title of \Division B National Champions!

The Kennedy Gold team demonstrated remarkable skill, winning medals in 17 out of 23 events, and ranking within the top 15 in all events. With a score of just 146 points, they surpassed the previous record they had set in 2019, with 148 points.

As per the Kennedy Middle School's team coach, Queen-Lee Foo, Kennedy medalled in the following events:

#### Gold (First Place):

1. Codebusters
2. Dynamic Planet
3. Sounds of Music
4. Solar Power (Trial)

#### Silver (Second Place):

1. Can't Judge a Powder
2. Disease Detectives
3. Rocks & Minerals

#### Bronze (Third Place):

1. Write It Cad It (Trial event)

#### Bronze (Fourth Place):

1. Anatomy & Physiology
2. Experimental Design
3. Flight
4. Write It Do It

#### Bronze (Fifth Place):

1. Forestry
2. Roller Coaster
3. Solar System

#### Bronze (Sixth Place):

1. Bio Process Lab
2. Meteorology

In addition, we would like to congratulate all members of the team for their achievements.

1. Alicia Xie - Disease Detectives, Storm the Castle, Sounds of Music, Write It Do It, Bio Process Lab (b)
2. Anish Vuppala - Can't Judge A Powder, Crime Busters, Experimental Design, Codebusters (b)
3. Bryan Fu - Meteorology, Solar System
4. Elaina Pan - Codebusters, Experimental Design, Write It Do It, Fast Facts (b), and Anatomy & Physiology (b)
5. Harvey Lei - Dynamic Planet, Forestry, Road Scholar, Rocks and Minerals
6. Joel Lee - Anatomy & Physiology, Flight, Forestry
7. Nimal Kumar - Can't Judge a Powder, Crime Busters, Green Generation, Solar System, Experimental Design (b)
8. Owen Liu - Anatomy & Physiology, Bio Process Lab
9. Pragya Rama - Crave the Wave, Disease Detectives, Dynamic Planet, Rocks and Minerals
10. Rachael Jin - Bridge, Roller Coaster, Storm the Castle, Wheeled Vehicle
11. Rehan Babu - Bio Process Lab, Codebusters, Fast Facts, Solar System (b)
12. Samarth Kashyap - Bridge, Flight, Roller Coaster, Wheeled Vehicle
13. Shamali Rewari - Fast Facts, Meteorology, Anatomy & Physiology (b)
14. Sohum Uttamchandani - Crave the Wave, Road Scholar
15. Takuji Kubota - Codebusters, Experimental Design, Green Generation, Sounds of Music

Alternates:

1. Vihaan Gope - Agriculture Science, Bio Process Lab (b), Can't Judge A Powder (b)
2. Neha Bashyam - Write It Cad It
3. Bryan Ge - Agriculture Science, Solar Power
4. Derek Liu - Write It Cad It
5. Natalie Yao - Solar Power

A big thanks also goes out to to Mr. Noguera and others for their support:

- Our Principal, Mr. Nuno
- Our Faculty Advisor, Mr. Aochi
- Our Vice Principal, Mrs. Orvick
- Our Superintendent, Mrs. Stacy Yao
- CUSD Biz Ops Ms. Dana Ino
- Mrs. Jenny Wong
- Ms. Tina Bernal
- Ms. Herriage
- Our PTA Presidents, Sonali Padgaonkar and Mr. Rick Gallo
- The Kennedy PTA Board
- Our esteemed CUSD Board members, Mr. Jerry Liu, Mr. Sateesh Madhathil, Mrs. Phyllis Vogel, Mrs. Sylvia Leong, and Ms. Eva Chiao
- Kennedy faculty and staff

# AI For Mental Health

**Ashish Kashyap, Staff Editor**

Generative AI is the future of technology. The buzzword has exploded across news and media and with the release of ChatGPT, Dall-E. All tech players big and small are rushing to get their slice of the AI pie. Investors are focusing on this market sector, mostly driven by a handful of tech stocks. This is bringing in a flurry of investments in the field leading to an even bigger expansion of the AI technology. The benefits and applications are endless, and the dangers unfathomably hazy.

While commercial applications abound, one area where AI tech can really make a difference is mental health. There has always been a shortage of mental health workers and resources in the U.S. Additionally, we have never had a clear algorithm to figure out who is at the highest risk for harming themselves or others, and why.

Now for the first time, big data has a chance to analyze and deduce what are the patterns in the thoughts, messages and communications of those who need the direst mental health review and help.

For last 6 decades, researchers from MIT, Stanford and several top establishments have reviewed ways of developing an automated Analyst to explore the interpretation of human thoughts. Ranging from comical to nonsensical, the output of conversations with these programs have steadily improved. But the idea that they could replace humans has been beyond grasp until only recently.

A recent pilot study headed by academics at the University of Illinois Chicago suggests that artificial intelligence may be a beneficial aid in treating mental illness. Researchers at Washington University in St. Louis and Pennsylvania State University, developed Lumen, on the Amazon Alexa application. Compared to the control group, participants using the Lumen app after the intervention had lower levels of psychological distress, anxiety, and depression. These are consequential gains for an overworked and understaffed area of mental health with profound implications.

Joe Pastian is a computer scientist and an analyst of medical data. He wanted to dig deeper into the mental health issues seen at the Cincinnati Childrens Hospital's pediatric psychiatric facility and understand what can be the behaviors indicating the risk of self-harm.

His team added their historical collection of suicide notes to the AI language model that learns which words and phrases tend to go together. The results suggested that an algorithm could identify “the language of suicide.”

Then Pestian analyzed audio recordings taken from patient visits to review their statements as well as the speech tones and inflections. The team found that people experiencing suicidal thoughts sighed more and laughed less than others.

This data can be crucial in determining where to focus the most medical help and can be used not just for juvenile patients, but Veterans and other adults affected. As a technology with tremendous potential to save lives, AI may be the next frontier in mental health. After all, we must remember, no therapist can be with a patient all the time.

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