

Error prediction in the human brain

- Emerging technology is making it possible to predict in advance when people will make a mistake.

- Federico Ciretti at the University of Arizona hooked up 18 university students to brain scanners and had them take the math portion of the SAT.
- Their individual EEG readouts were obtained through the brain scanner and compared to their test results.
- Ciretti was able to devise an algorithm which related mistakes on the math questions to certain brain waves in the EEG (corresponding to fatigue and low concentration.)
- The algorithm is so accurate that it can predict a mistake before it happens 80% of the time, simply by viewing the student's brain patterns for twenty seconds after they begin the problem.
- Students about to mess up are more stressed, exhibit lower concentration, lower cognitive workload, etc.



- The applications for this technology are impressive. Being able to predict your mistakes before they happen would be extremely useful in a variety of fields including
 - Education
 - Language Acquisition
 - Critical jobs with zero tolerance for mistakes (ex: air traffic controller)
 - Everyday life (driving, doing your taxes, etc.)