Stevens Is All In On AI

Artificial intelligence has exploded, transforming and permeating our lives. Yet Americans remain extremely wary of the technology, according to a recent Stevens *TechPulse* Report survey, which revealed growing concerns over just the past two years.

"Americans have become more wary of AI," notes Brendan Englot, director of the Stevens Institute for Artificial Intelligence (SIAI), an interdisciplinary center drawing on more than 100 faculty from all of Stevens' schools.

These SIAI-affiliated faculty create AI that saves lives, keeps us healthier and makes life more enjoyable. They also study AI's potential drawbacks and dangers.

"AI is a powerful new technology, and we are working to harness that power for societal good," says Englot.

HEALTHY DOSE OF AI

Researchers across the university, including **Negar Ebadi, Yu Gan, Samantha Kleinberg, K.P. Subbalakshmi** and **Damiano Zanotto**, use AI to develop a wide range of healthcare and medical applications including stroke care, nutrition, rehabilitation and depression, as well as earlier diagnosis of skin cancer, heart disease, Alzheimer's, atherosclerosis and other conditions.

BRIDGING A SAFETY GAP

Engineering researcher **Kaijian Liu** develops algorithms to monitor bridges and predict, with very high accuracy, which may be in danger of failing, in order to prioritize repairs. In early tests examining several thousand U.S. bridges, his AI accurately flagged dangerous issues 90% of the time — 15% to 20% more accurately than existing methods.

AI Trailblazers

SANG WON BAE
Predicts substance abuse using AI

BRENDAN ENGLOT
Teaches robots to navigate in danger zones

JONGGI HONG
Designs tools to enable disabled tech users

**SAMANTHA KLEINBERG**
Uses precise AI to bridge nutrition and health

JEFF NICKERSON
Develops AI that brainstorms new ideas

ANTONIA ZAFERIOU
Analyzes athletes' movements to reduce injury

POWERING A REVOLUTION IN ENERGY RESEARCH

As we work toward a greener planet and smarter buildings, cities and grids, energy experts including **Philip Odonkor** and **Lei Wu** leverage AI to improve the power generation, power storage and energy distribution of the future. Reimagining the power grid allows researchers to ensure it works more flexibly, fairly and equitably.
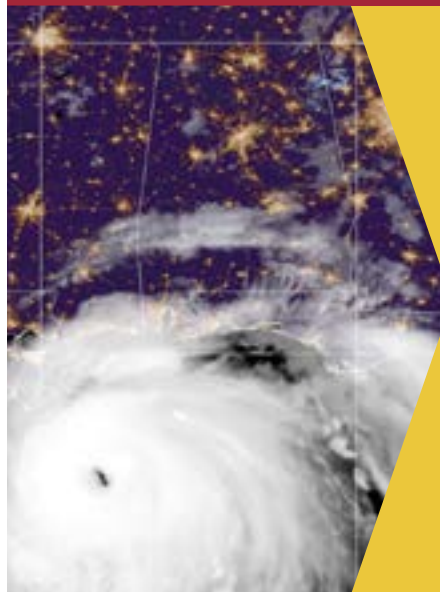
AI FOR THE PLANET

Knut Stamnes and **Marouane Temimi** each develop algorithmic systems to sharpen satellite images and enable closer study of weather, climate change and food and water supplies. Faculty in the **Davidson Lab** develop leading-edge prediction systems to warn of floods, storm surges and sea-level rise — in particular the **Stevens Flood Advisory System**, which many dozens of metropolitan-area planning and resilience officials consult daily.

EFFORTS AT EQUITY

Researchers **Yue Ning, K.P. Subbalakshmi** and **Jia Xu** probe the dark side of AI, delving into important questions about how and why AI-powered systems may be biased in some of their predictions and decisions. The tools they design detect the viral spread of online hate speech and misinformation and shine light on AI's built-in biases in order to reduce or eliminate them.

Learn more stevens.edu/AI

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