Hashibul Ahsan Shoaib's Aerial AI Research Receives Global Praise, Suggests Tremendous Benefits for the U.S.

NEW YORK, NY, UNITED STATES, September 15, 2025 / EINPresswire.com/ -- When wildfires scorch the Western states or hurricanes strike the Gulf, emergency responders look to aerial photographs to see what is going on on the ground. The photos are a snapshot, however, and looking isn't seeing. They must be interpreted quickly, accurately, and at a large scale and this is where AI comes in.

Researcher Hashibul Ahsan Shoaib has focused on the central question: How do we make machines read the sky for us? His latest peer-reviewed article, in Intelligent Systems with Applications, lays out the progress in deep-learning models for interpreting aerial photos and enumerates the remaining challenges.

"The technology is very powerful, but it's not universal yet," explained Shoaib in a recent interview regarding his work. "A model working well in California might fail in Texas due to differences in terrain, illumination, or even the source of satellite sensor used. We'd like to have systems that can adapt, justify their choices, and operate where they're needed, even on drones in an emergency."

The study highlights the strengths of various AI methods: CNNs are still decent workhorses, Transformers do well when it comes to identifying general patterns, and GANs are necessary for data gap filling. The drawbacks posed by imbalanced datasets, conflicting benchmarks, and high computing demands of modern architectures are, however, pinpointed by Shoaib.

For America, the stakes are enormous. Quicker, more efficient air AI would mean quicker detection of wildfires, safer bridge and powerline inspections, improved coastal surveillance, more intelligent farming, and more secure cities. "If we get this right," Shoaib said, "we're not

> A model that works in California might stumble in Texas. We need AI that adapts, explains itself, and works anywhere — even on a drone in the middle of a disaster."
>
> *Hashibul Ahsan Shoaib*

only advancing technology, we're saving lives, infrastructure, and food security."

This potential contribution is one of the reasons why Shoaib has recently been granted a 2025 Global Recognition Award for his research in cutting-edge AI. The award, in its recognition of innovators making a difference in the real world, lauded his systematic approach to aerial image interpretation and machine-learning techniques.

And down the road, Shoaib envisions aerial AI going in new directions. Pre-trained base models on high-geospatial data sets might make entry for small agencies and startups easier. Multimodal fusion of optical, radar, and LiDAR data would enhance system strength against weather and terrain variation. And explainable AI could make regulators and decision-makers feel more at ease utilizing them in mission-critical situations.

"America has the resources and sense of urgency to lead the charge in this field," said Shoaib. "If we continue to invest in R&D and developing proven systems, the U.S. can establish the world standard for using aerial AI for disaster relief, infrastructure protection, and green agriculture."

From high-flying satellites to map-making drones, Shoaib's work helps remind us that the future of AI is not just about smarter machines. It's about machines helping us have greater clarity, react more quickly, and make ourselves safer on the ground.

About the Researcher
Hashibul Ahsan Shoaib is a best-awarded researcher whose work combines cutting-edge artificial intelligence with practical applications. He holds M.Sc. in Information Technology from St Francis College, Brooklyn, New York, as well as an M.Sc. in Applied Physics & Electronics and B.Sc. in Electrical & Electronics Engineering from Bangladesh's topmost universities.

Shoaib started his professional career in the software sector, working as a hands-on Software Quality Assurance Engineer. Later, he moved towards research and applied research in academic settings, and his expertise lies in deep learning, machine learning, and artificial intelligence. His recent publications investigate how AI can be used to make aerial and satellite images more usable for disaster response, infrastructure management, and environmental monitoring.
In 2025, he was awarded a Global Recognition Award for his work in AI and aerial image analysis, recognizing the global impact of his work. View here: https://globalrecognitionawards.org/winners/2025/hashibul-shoaib-recognized-with-a-2025-global-recognition-award/

Hashibul Shoaib
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+1 571-478-9863
aahsan.cs@gmail.com
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X
