Aviation Industry Reflects on the Opportunities and Risks of Generative AI at WAF Asia

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At the WAF Festival Asia held in Singapore on February 28-29, industry experts convened to discuss the profound impact of Generative AI in aviation, shedding light on both successes and looming challenges.

Kat Morse, Senior Manager of Innovation and Partnerships, who moderated the AI and Data Track, shares insights on the discussion with industry leaders from Air India, Cathay Pacific, SpiceJet, Emirates, INFORM and Collins Aerospace on the impact of Generative AI in aviation.

Unpacking the transformative potential of Generative AI in the industry

Amidst the rapid adoption of ChatGPT within the last year and a half, it was clear that Generative AI enhanced systems will unlock new efficiency capabilities for various operational aspects for airlines.

During the discussion regarding the main themes the industry will tackle with Generative AI in the upcoming years, the potential of the technology to revolutionize customer interactions and enable personalized services became evident as a promising opportunity.

Deva Joseph, VP of Digital at Air India, shared insights into his team's successful implementation of virtual agents at different traveler touchpoints to enhance customer service and personalize inflight experiences. Notably, the airline has also begun projects on leveraging predictive analytics and operational optimization, driving efficiency and productivity gains across departments.

Air India's efforts are matched with the sentiments from Cathay Pacific's Head of Enterprise Analytics and Insights, Edward Coles-Gale. He believes that, while the initial adoption of Generative AI has avoided customer-facing use cases, customer experience will be a key area of focus as generated personalized content becomes more expected.

Where there is clearly an opportunity for a customer-facing solution using Generative AI and Large Language Models is in managing irregular operations, according to Coles-Gale. Large Language Models, also known as LLMs, are advanced AI systems capable of understanding and generating human-like text across a wide range of topics and tasks. He emphasizes the significance of context and personalization in industry communication with customers during disruptions. LLMs might just be able to overcome such a challenge.

Last year, in 2023, attendees of the Innovation Day echoed similar sentiments during the Generative AI roundtable. They collectively recognized the importance of utilizing new technologies to enhance the customer experience for travellers amid disruptions.

A friend or foe? Addressing the risks and challenges with Generative AI

Despite strides made, hurdles in Generative AI's implementation remain, ranging from regulatory ambiguities to talent shortages and data privacy apprehensions. To tackle these obstacles head-on, airlines are doubling down on talent development, investing in data infrastructure, and collaborating further with various technology partners.

Rahul Chogle, Head of Data and Analytics at SpiceJet, shares these sentiments. He believes that the biggest challenge to implementation is user acceptance across the workforce. He hopes that the industry's workforce will see it as an enabler to their work, a tool to improve efficiency and output.

Additionally, his insights underscore the need for upskilling, so that the industry workforce can best leverage Generative AI tools to support them in their work while preventing misuse which may lead to privacy concerns.

Collaboration in the age of technological progress

When analyzing risks and challenges, one key takeaway the panellists agreed on was the importance of industry-wide collaboration around Generative AI regulatory guidelines and taking the necessary steps to prevent future misuse.

Coles-Gale's considers federated machine learning serving as a way for airlines to work together in precenting abusive and fraudulent bookings. He also sees airfield ecosystem recovery as a space for industry-wide collaboration, whereby using LLMs, airlines can operate in concert with airport operators, Ground Handling Agents (GHAs) and Maintenance, Repair, and Overhaul (MROs) to optimize operational efficiency and recover from various causes of delay.

However, the move to industry-wide collaboration in AI practices may also be beneficial to following regulatory guidelines.

There are various imminent regulations on AI, such as the AI Act in Europe, and airlines will have to just as equally develop AI governance frameworks in-house as following those developed by government bodies. But regulatory frameworks are not the only way to ensure compliance and ethical AI practices; industry collaboration on best practices and lessons learned can also pave the way for appropriate uses of the technology, with the best interest of protecting customers' data in mind.

A look at the future

As the aviation industry navigates the complexities of AI integration, collaboration and foresight emerge as critical pillars for success. With evolving technologies and regulatory landscapes, staying ahead of emerging trends remains paramount.

For more insights on the potential industry implementations of Generative AI, take a look at our Generative AI report, which gathers industry insight on various use cases across different domains.