Blackshark.ai partners with Microsoft in creating a digital twin of the planet for the new Flight Simulator

August 7th, 2020 – Redmond, Washington, United States I Graz, Austria. Two weeks before its launch Microsoft is proudly announcing a key technology partner in the development of its upcoming Flight Simulator. Blackshark.ai, headquartered in Graz, Austria, contributes to the game with a unique Artificial Intelligence solution to extract precise information about the world's infrastructure from satellite imagery, and to reconstruct a photorealistic digital twin of the planet, enabling players to find and fly over their homes.

"While cities such as Seattle or New York have already been reconstructed based on photogrammetry in the past, 99.8% of the planet's buildings, vegetation, and infrastructure just haven't been available in 3D", explains Thomas Richter-Trummer, Blackshark.ai's CTO and a pilot himself, about the starting point of the challenge they decided to take on over two years ago. The mission was visionary yet clear – players should be able to fly over the real world as a backdrop of the game, offering unmatched gaming experience on all levels. The outcome has an incredible level of detail, distinctive design and recognition value that indeed make the player feel like they're flying over the real world.

With a team of 50+ AI specialists, geospatial engineers, data scientists, and real-time rendering developers, Blackshark.ai developed a unique solution that uses the Microsoft Azure Cloud and Artificial Intelligence to gain insights about our planet based on Bing Maps data. A deep learning neural network segments and classifies buildings, vegetation and roads globally, and a novel approach is used to reconstruct detected building attributes in highly detailed 3D. Instead of storing petabytes of geometry data in the game, patented Blackshark.ai technology lets the player stream the data in real-time.

"We have reconstructed approximately 1.5 billion buildings and detected over 30 million square-kilometers of vegetation", elaborates Stefan Habenschuss, Head of the Machine Learning Group, demonstrating the scalability and performance of the technology. While building footprints, heights, type, and rooftops are being segmented by neural networks with high accuracy, attributes such as façade features are being added automatically based on geographic and contextual parameters, filling in the gaps from limited input data. Using hundreds of virtual machines in parallel, the entire planet can be processed in less than 72 hours. "This game is a demonstration of the power of AI. We're excited to contribute to such a groundbreaking product."

"We are proud to see our decade-long experience in creating procedural worlds coming together with our team's groundbreaking achievements in artificial intelligence, that in combination created a product that is truly revolutionary on the gaming market and beyond",

says Michael Putz, co-founder and CEO of blackshark.ai, looking forward to exciting things ahead.

About blackshark.ai

Blackshark.ai is a team of 50+ A.I. specialists, geospatial engineers, data scientists and real-time rendering programmers based in Graz, Austria and San Francisco, US, working on a digital twin of our planet. The company is using AI to fill in the gaps from limited input data to automatically reconstruct a semantic representation of our world. The blackshark.ai platform is already used in various industries ranging from autonomous driving, virtual sensor simulation for autonomous drones, gaming, mapping/navigation, location intelligence, earth observation, geospatial and insurance.

Contact blackshark.ai

Michael Putz
Co-founder & ceo
michael.putz@blackshark.ai
www.blackshark.ai