

# Hatch Me If You Can: Startup's Sorting Machines Use AI to Protect Healthy Fish Eggs

Jensorter, an NVIDIA Inception startup, creates AI-based fish-egg sorters that identify and separate healthy from unhealthy eggs.

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Fisheries collect millions upon millions of fish eggs, protecting them from predators to increase fish yield and support the propagation of endangered species — but an issue with gathering so many eggs at once is that those infected with parasites can put healthy ones at risk.

Jensorter, an Oregon-based startup, has created AI-powered fish egg sorters that can rapidly identify healthy versus unhealthy eggs. The machines, built on the NVIDIA Jetson Nano module, can also detect egg characteristics such as size and fertility status.

The devices then automatically sort the eggs based on these characteristics, allowing Jensorter's customers in Alaska, the Pacific Northwest and Russia to quickly separate viable eggs from unhealthy ones — and protect them accordingly.

Jensorter is a member of NVIDIA Inception, a program that nurtures cutting-edge startups revolutionizing industries with advancements in AI, data science, high performance computing and more.

According to Curt Edmondson, patent counsel and CTO of Jensorter, many fisheries aim to quickly dispose of unhealthy eggs to lower the risk of infecting healthy ones.

Using AI, Jensorter machines look at characteristics like color to discern an egg's health status and determine whether it's fertilized — at a speed of about 30 milliseconds per egg.

"Our fish egg sorters are achieving a much higher accuracy with the addition of AI powered by NVIDIA Jetson, which is allowing us to create advanced capabilities," Edmondson said.

The startup offers several machines, each tailored to varying volumes of eggs to be sorted. The Model JH device, optimal for egg volumes of three to 10 million, can sort nearly 200,000 eggs per hour, eliminating the slow and laborious process of hand-picking.

"Using AI to capture and process images of eggs in real time could have great value over the long term," Edmondson said. "If hatcheries come together and centralize their images in a database, we could identify patterns of egg characteristics that lead to healthy eggs."

This could help propagate salmon and trout, species that play important roles in their ecosystems and are common food sources for humans, and which are on the decline in many areas, he added.

The Oregon Hatchery Research Center recently used Jensorter devices to conduct an alpha test examining whether smaller eggs lead to healthier fish. In the spring, the center will use the machines to proceed with beta testing in hatcheries, before publishing study results.

Jensorter also plans to create next-generation sorters that are faster still and can detect, count and separate eggs based on their sex, number of zygotes and other metrics that would be useful to fisheries.

Watch a tutorial on how Jensorter equipment works and learn more about NVIDIA Inception.

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