

## CS+HEALTH AND SUSTAINABILITY

# Code the planet!

Computer scientists are down with *all* the global issues – from creating ways to protect our oceans, to making us more energy-efficient – they’re on it!

### Fish Facebook

“Tagging” a fish through facial recognition (just like on Facebook) lets scientists quickly know how fish populations are doing. It’s a simple way to help create a better planet. “Fish recognition is challenging,” says University of Washington electrical engineer Dr Jenq-Neng Hwang. Jenq-Neng spent six years developing signal and image processing technology for the National Oceanic and Atmospheric Administration. “Unlike human recognition cameras that rely on facial features, we develop algorithms to recognize facial and body features of fish, and in changing light situations.”

### See it, believe it

Global policy responses to the effect of climate change on our oceans have been poor. Professor Jeremy Bailenson, founding director of Stanford’s Virtual Human Interaction Lab, believes virtual reality (VR) could help by letting people connect with the issue on an emotional level. Jeremy is developing software compatible with VR technologies such as Google Cardboard and Oculus Rift, to take people on a virtual field trip under the sea.

“In the simulation, users turn into a carbon dioxide molecule, fly into the reef and see the breaking apart of the molecules that happens in ocean acidification,” Jeremy explains.

### Sustainable space base

NASA scientists are also creating environmental solutions. The \$25 million two-story Sustainability Base at the NASA Ames Research Center has been developed as a future building prototype. It uses 90% less water than comparable buildings, and has building controls that respond to sunlight, temperature and usage. Equipped with solar panels, the building generates more electricity than it consumes. There are even plans to cover the umbrellas on the patios with solar films and include phone-charging stations.



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