Collective Solutions to Societal Problems

EyesOnALZ

A Citizen Science project to fight Alzheimer's

What

EyesOnALZ* is a citizen science project, which is crowdsourcing Alzheimer's disease research for the Schaffer – Nishimura Lab at Cornell University. EyesOnALZ will release two citizen science games – Stall Catchers (Oct 2016) and a vessel tracing game (to be announced in 2017).

* formerly known as WeCureALZ

How

Our citizen science games are being built on two existing platforms, stardust@home and EyeWire. We are using data acquired by researchers at the Schaffer – Nishimura Lab and feeding them into the game platforms for crowdsourcing.

This work is supported by the BrightFocus Foundation and its generous donors.

Who

EyesOnALZ project is led by the Human Computation Institute, and includes collaborators from The Schaffer-Nishimura Lab at Cornell University, Sebastian Seung's Laboratory at Princeton University, the stardust@home team at U.C. Berkeley, SciStarter.com, and WiredDifferently.

The Stall Catchers game

Stall Catchers is the first of two online games being developed at EyesOnALZ. The game will allow participants to look at movies of real blood vessels in mouse brains, and search for "stalls" – clogged capillaries where blood is no longer flowing. By "catching stalls" participants will be able to build up their score, level up, compete in the game leaderboard, and receive digital badges for their various achievements.
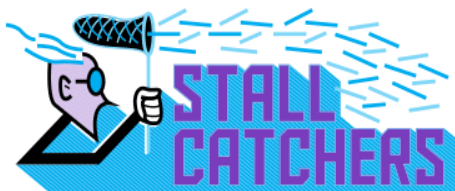
Everyone who participates will contribute to Alzheimer's research at the Schaffer-Nishimura Laboratory (Cornell Dept. of Biomedical Engineering), and help speed up the search for an Alzheimer's cure by orders of magnitude.
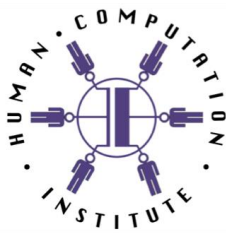
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EyesOnALZ Team

Name	Organization	EyesOnALZ Role
Darlene Cavalier	SciStarter	Advisor, Outreach Partner
Meryl Comer	Geoffrey Beene Foundation Alzheimer's Initiative	Advisor
Mohammad Haft Javaherian	Cornell University	Research Data Analyst
Robert Lettieri	UC Berkeley	System Administrator / Software Developer
Will Marchant	UC Berkeley	Software Developer
David Medinets	CodeBits	Software Process & Infrastructure
Pietro Michelucci	Human Computation Institute	Principle Investigator
Victorine Muse	Cornell University	Vessel Annotation Expert
Nozomi Nishimura	Cornell University	Alzheimer's Researcher
Michael Pacheco	Pacheco Design Lab	Graphics Artist
Eglė Marija Ramanauskaitė	Human Computation Institute	Citizen Science Coordinator
Amy Robinson	Wired Differently	EyeWire Expert
Chris Schaffer	Cornell University	Alzheimer's Researcher
Sebastian Seung	Princeton University	EyeWire Expert
Alice Sheppard	Human Computation Institute	Forum Moderator
Ieva Vaišnoraitė-Navikienė	Human Computation Institute	Software Developer
Andrew Westphal	UC Berkeley	stardust@home Expert

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In the press

http://discovermagazine.com/search?q=ramanauskaite

http://www.dailymail.co.uk/sciencetech/article-3380709/Superintellingence-AI-humans-working-solve-climate-change-end-wars-researchers-claim.html - ixzz3w1INn0D5

http://www.fastcompany.com/3055277/how-the-global-hive-mind-is-teaming-up-to-find-a-cure-for-alzheimers

http://www.genengnews.com/gen-news-highlights/the-crowd-sourced-supercomputer-speeds-research-results/81252164/

https://www.wired.de/collection/latest/ein-forscherteam-aus-den-usa-will-die-internet-crowd-gegen-alzheimer-nutzen

(in German)

http://www.elespanol.com/ciencia/20160104/91990818_0.html

(in Spanish)

http://www.technology.org/2016/02/02/wecurealz-crowdsourcing-a-cure-for-alzheimers/

http://hcjournal.org/wecurealz/wp-content/uploads/2016/06/nature-biotech-citsci.pdf

https://www.facebook.com/crowdandcloudTV/videos/1792171584350704/

http://www.scitechnow.org/videos/can-crowdsource-scientific-research/

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Press quotes

This gives an opportunity for anyone, including the tech-savvy generation of caregivers and early stage AD patients, to take the matter into their own hands.

At HCI, crowd input is also being used to make research more efficient. Cornell-based Alzheimer's research on WeCureAlz.com is produced through an interactive tool, in which users play a game to help analyse data.

By enabling members of the general public to play some simple online game, we expect to reduce the time to treatment discovery from the decades to just a few years,' says HCI director and lead author, Dr. Pietro Michelucci.

'Superintellingence' of AI and humans working together could solve climate change and end wars, researchers claim, Cheyenne Macdonald, Dailymail.Com (31 December 2015)

This kind of crowdsourcing methodology is already being conducted in a wide variety of human computation/online machine combination platforms.

Two of which will be used to launch the WeCureALZ initiative: Stardust@Home out of the University of California-Berkeley, where, since 2006, a crowd of more than 30,000 citizen scientists, called "dusters," have been analyzing data and images to find pristine interstellar dust particles that were brought back to Earth from a space probe conducted by NASA, and EyeWire, an MIT-originated online 3-D puzzle game in which hundreds of thousands of players are helping to map the human brain through a human-based computation platform that challenges players to map 3-D neurons in a retina.

How The Global Hive Mind Is Teaming Up To Find A Cure For Alzheimer's, George Lorenzo, The Fast Company (1 January 2016)

"By unleashing the power of the crowd, we can remove the analytic bottleneck and dramatically accelerate the Alzheimer's research." says Dr. Michelucci, who realized that the virtual microscope from stardust@home could be repurposed to help locate stalled blood vessels, and that the EyeWire puzzle game could be used to build a map of brain blood vessels. Combining the two would allow Alzheimer's researchers to see a 3D map of exactly where blood is and isn't flowing in the brain and speed up the research by a factor of 30.

The Rightful Place of Science: Citizen Science (2016), book by Darlene Cavalier and Eric B. Kennedy