



Home	News	Animals	Biology	Environment	Health & Medicine	Tech	Travel	Space	Video
------	------	---------	---------	-------------	-------------------	------	--------	-------	-------

TRENDING TOPICS NASA ANIMALS CLIMATE CHANGE HEALTH CHINA

How Game Theory and Artificial Intelligence Help Wildlife Conservation by Outwitting Poachers

By John Raphael

Apr 25, 2016 01:19 PM EDT



Researchers developed new AI-derived application employing game theory that can efficiently map out randomized and effective patrol route to prevent poaching.

(Photo : Chris Jackson/Getty Images)

Poaching is one of the greatest threats in the conservation of wildlife, and even patrol rangers' extreme efforts are not enough to completely fend off poachers, especially in very large protected areas.



"In most parks, ranger patrols are poorly planned, reactive rather than pro-active, and habitual," said Fei Fang, a Ph.D. candidate in the computer science department at the University of Southern California, in a [statement](#).

With these in mind, researchers, in collaboration with the National Science Foundation and the Army Research Office, have developed a new Artificial Intelligence (AI)-based application employing game theory to efficiently map out patrol routes and areas.

According to the [press release](#) of National Science Foundation, game theory uses mathematical and computer models of conflict and cooperation between rational decision-makers to predict the behavior of adversaries and plan optimal approaches for containment.

The application, dubbed "Protection Assistant for Wildlife Security" or PAWS, uses mathematical models to effectively analyze data from previous patrols and evidence of poaching. The more data fed to the application, the more it can "learn" the topography, terrain, natural paths, foot traffic and animal traffic of the protective area.

LET'S CONNECT

Like

Follow @natureworldnews



EDITOR'S CHOICES

As a result, the application can map out practical patrol routes that can minimize time, energy and resources. The application also has the ability to randomize patrol routes, making it difficult for poachers to predict any types of discernible patterns.

"If the poachers observe that patrols go to some areas more often than others, then the poachers place their snares elsewhere," Fang said.

The AI-driven PAWS was created in 2013 and was first used in Uganda and Malaysia in 2014. The researcher presented their study at the Association for the Advancement of Artificial Intelligence (AAAI) conference last February.

"This work is not only important because of the direct beneficial impact that it has on the environment, protecting wildlife and forests, but on the way that it can inspire others to dedicate their efforts into making the world a better place," said Sara Mc Carthy, a Ph.D. student in computer science at USC, who also developed a similar AI-based application limiting illegal logging in Madagascar.

The Heartbreaking Reality of Poaching



Tags [game theory](#), [poaching](#), [artificial intelligence](#), [paws](#), [Protection Assistant for Wildlife Security](#), [wildlife](#)

© 2015 NatureWorldNews.com All rights reserved. Do not reproduce without permission.

TRENDING TODAY

Sponsored by Revcontent

"Remove" Your Eye Bags & Wrinkles In 1 Minute!

22 Ridiculous Facts That Prove Bear Grylls Is The

Can You Believe How Badly These Celebs Have Aged?

20 Mysterious Photos That Cannot be Explained #7 Will



New Rule In Los Angeles CA

4 Stages To A Heart Attack - Are You At Risk?

4 Stages of a Heart Attack - Find Out If You're At Risk

The Root of All Stomach Problems?



Depleted Oxygen in the Ocean Caused by Climate Change Threatens Marine Life



Dinosaurs May Have Been Dreamers; Reptiles Experience Same Sleeping Patterns as Humans

NEWS

NEWS

All Hopes Lost for 'Hitomi,' Japan Ends Search for Missing Multi-Million Dollar Satellite

Tiny Rodent Shut Down World's Largest, Most Powerful Particle Collider

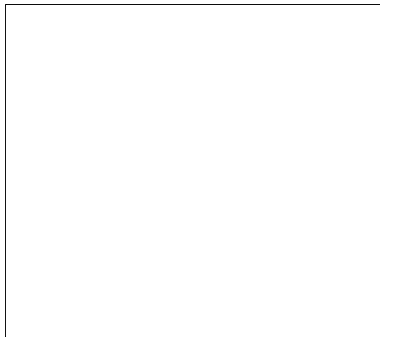
MOST POPULAR

- 1 Why are Dolphins Turning Pink?
- 2 Emma Thompson Breaks Court Injunction to Film "Bake Off" Against Fracking, Gets Sprayed By Manure
- 3 NASA Releases 360-Degree Video of Mars Surface
- 4 Scientists Find Link Between Skin Disease 'Rosacea' and Dementia
- 5 Hidden Lake Beneath Antarctic Ice May Contain Numerous Life Forms
- 6 'Panama Disease' Throws Banana Industry into Global Crisis
- 7 HIV Update: HIV Prevention Medication Can Now Be Delivered to Your Doorstep

Email Newsletter

Enter your email and get it now!

SUBMIT



JOIN THE CONVERSATION

Sponsored

FEMALE FIRST

McCarthy's Gone

CBS confirms 'Mike & Molly' will come to an immediate end after learning...

[Learn More](#)



0 Comments

NatureWorldNews

Login 1

Recommend

Share

Sort by Best



Start the discussion...

Be the first to comment.

Subscribe

Add Disqus to your site Add Disqus Add

Privacy

SPACE

Hubble Telescope's Gold-Covered Replacement Puts Predecessor to Shame

SpaceX Announces Plan to Send Red Dragon Spacecraft to Mars in 2018

NASA: Stunning 4K Video of Flares Bursting From the Sun [Video]

China to Launch Space Station in 2018, Aims to Become Next 'Space Giant'

SCIENCE

Watch Sparks Fly As Sperm Meet Eggs to Form Life

Hidden Lake Beneath Antarctic Ice May Contain Numerous Life Forms

How Climate Change Affects Ocean's Oxygen Level

How Higher Levels of Carbon

Green "Oscars," the Whitley Awards, Funds Wildlife Causes

Dioxide Could Actually Make the Earth Greener

TECH

Freezing Technique Could Ease Amputees' Phantom Limb Pain

How Game Theory and Artificial Intelligence Help Wildlife Conservation by Outwitting Poachers

'Incompetent' Robot Waiters Force Restaurants In China To Shut Down

NASA Launches Study of X-Planes Supersonic Jets, Commits to Green Aviation Technology

33 Abused Lions Saved From South American Circuses Finally Heading Back To Homeland

Melting Arctic Ice Forces Polar Bears to Swim Long Distances Without Rest

'World's Oldest Dog' Passes Away At 30

Scientists Explain Why Bearcats Smell Like Buttered Popcorn

Orphaned, Critical Baby Pangolin Is A Fighter And Survivor

Island Birds Are Losing The Ability To Fly

'Godzilla'-like Marine Iguana Caught Swimming, Feeding On Camera [Video]