

Cite U Like

An on-line tool to store, organize and share papers

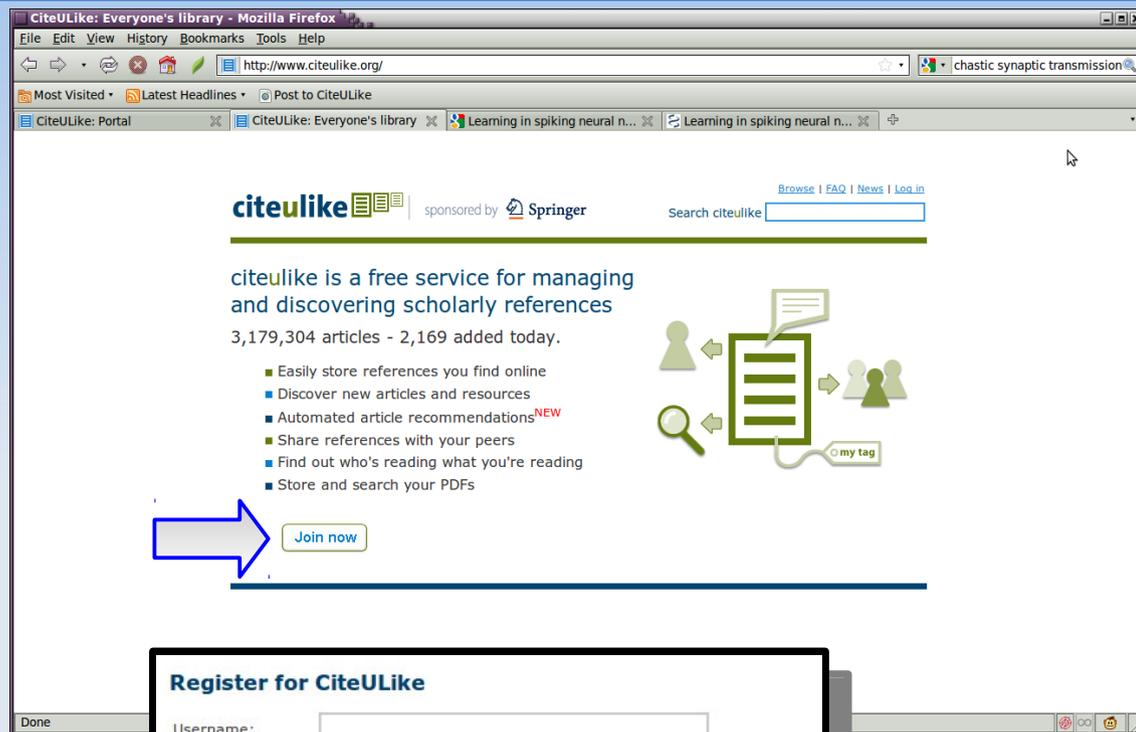
And some automation to help keeping track of what you read

<http://www.citeulike.org>

A brief introduction to Cite U Like

➤ On-line tool that needs registration with some information:

- Username - a personal nickname
- Password - to access your stored article
- E-Mail - your personal e-mail



The registration form is titled 'Register for CiteULike'. It contains the following fields and instructions:

- Username:** [Text input field]
Note: You can't have spaces or punctuation in your username
- Password:** [Text input field]
- Confirm Password:** [Text input field]
Note: Both your username and password are case sensitive.
- Email:** [Text input field]
- Are you a human?:** A CAPTCHA challenge with the words 'tunisia' and 'self-mocking'. Below the words is a text input field labeled 'Type the two words:'.

At the bottom of the form is a red button labeled 'Sign up Now!'.

Cite U Like - Main page

An example - my main page

The screenshot shows the CiteULike user profile page for 'sergiodavies'. The browser window is titled 'CiteULike: Portal - Mozilla Firefox' and the address bar shows 'http://www.citeulike.org/'. The page layout includes a navigation bar, a sidebar with 'ANNUAL REVIEWS' and 'INSIGHTFUL RESEARCH STARTS HERE', and a main content area with sections for 'Recommendations', 'Library', 'Activity', and 'Profile'. The 'Recommendations' section is empty, stating 'There aren't any recommendations for you yet...'. The 'Library' section lists five articles, with the most recent being 'Reinforcement learning I: Introduction'. The 'Activity' section shows 'Most recent entry in each of your groups and connections' under 'Connections' and 'Groups'. The 'Profile' section on the right includes a placeholder for a profile picture, user details (Username: sergiodavies, Joined: 2009-10-12, Email: sergio.davies@gmail.com, Name: Sergio Davies, Job title: PhD Student, Affiliation: [Not specified], Web page: [Not specified]), a bio ('I'm a PhD student at the University of Manchester...'), and interests ('spiking neural network, neural network plasticity, synaptic rewiring, neuronal death and network recovery').

Recommendations

There aren't any recommendations for you yet. These are only generated once you have a 20 or more articles in your library. See the [recommendations](#) page for more details.

Articles stored

Library

[Most recent entry] [Unread] [Search]

- ▶ [Reinforcement learning I: Introduction](#)
- ▶ [Efficient modelling of spiking neural networks on a scalable chip multiprocessor](#)
- ▶ [Developmental Robotics: Manifesto and Application](#)
- ▶ [Adaptive models in neural networks](#)
- ▶ [Spontaneous and evoked synaptic rewiring in the neonatal neocortex](#)

[My Library]

Social networking

Activity

Most recent entry in each of your groups and connections

Connections

You don't have any connections. You can request a connection to another user by clicking **Connect** on another user's pages.

Groups

You are not a member of any groups. Why not [search](#) for a group to join? Or perhaps start your own one. Within a group where you can share articles with researchers in a field you're interested in. You can also discuss topics through group forums and blogs. Groups can be either public or private.

Personal information

Profile

Username: sergiodavies
Joined: 2009-10-12
Email: sergio.davies@gmail.com
Name: Sergio Davies
Job title: PhD Student
Affiliation: [Not specified]
Web page: [Not specified]

What I do:

I'm a PhD student at the University of Manchester, in Computer Science and I'm doing some research on neural network plasticity and synaptic ...

Interests:

spiking neural network, neural network plasticity, synaptic rewiring, neuronal death and network recovery

[View] [Edit]

Blog

Recent blog posts

[Science papers that interest you](#)

The most recent addition to CiteULike has been article recommendations based on

Cite U Like - Adding an Article (1)

Learning in spiking neural networks by reinforcement... [Neuron, 2003] - PubMed result - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.ncbi.nlm.nih.gov/pubmed/14687542 chastic synaptic transmission

Most Visited Latest Headlines Post to CiteULike

CiteULike: Portal CiteULike: My library 5 artic... Learning in spiking neural n... Learning in spiking neural n...

NCBI Resources How To My NCBI Sign In

PubMed.gov U.S. National Library of Medicine National Institutes of Health

Search: PubMed Advanced search Help

Search Clear

Display Settings: Abstract Send to:

Performing your original search, *Learning in spiking neural networks by reinforcement of stochastic synaptic transmission*, in PubMed will retrieve [2 records](#).

Neuron, 2003 Dec 18;40(6):1063-73.

Learning in spiking neural networks by reinforcement of stochastic synaptic transmission.

Seung HS.
Howard Hughes Medical Institute and Brain and Cognitive Sciences Department, Massachusetts Institute of Technology, Cambridge, MA 02139, USA. seung@mit.edu

It is well-known that chemical synaptic transmission is an unreliable process, but the function of such unreliability remains unclear. Here I consider the hypothesis that the randomness of synaptic transmission is harnessed by the brain for learning, in analogy to the way that genetic mutation is utilized by Darwinian evolution. This is possible if synapses are "hedonistic," responding to a global reward signal by increasing their probabilities of vesicle release or failure, depending on which action immediately preceded reward. Hedonistic synapses learn by computing a stochastic approximation to the gradient of the average reward. They are compatible with synaptic dynamics such as short-term facilitation and depression and with the intricacies of dendritic integration and action potential generation. A network of hedonistic synapses can be trained to perform a desired computation by administering reward appropriately, as illustrated here through numerical simulations of integrate-and-fire model neurons.

PMID: 14687542 [PubMed - indexed for MEDLINE]

MeSH Terms

LinkOut - more resources

Cell Press

Related articles

- ▶ Learning in neural networks by reinforcement of in [Phys Rev E Stat Nonlin Soft Matter Phys. 2004]
- ▶ Dynamic stochastic synapses as computational units. [Neural Comput. 1999]
- ▶ Reinforcement learning through modulation of spike-timing-dependent syn [Neural Comput. 2007]
- ▶ **Review** A spiking neural network architecture for nonlinear function approximation [Neural Netw. 2001]
- ▶ **Review** A review of the integrate-and-fire neuron model: I. Homogeneous synapt [Biol Cybern. 2006]

» See reviews... | » See all...

Cited by 8 PubMed Central articles

- ▶ Gain in sensitivity and loss in temporal contrast of STDP by dopami [Proc Natl Acad Sci U S A. 2009]
- ▶ Copying and evolution of neuronal topology. [PLoS One. 2008]
- ▶ Emergence of functional hierarchy in a multiple timescale neural networ [PLoS Comput Biol. 2008]

» See all...

All links from this record

- ▶ Related Articles
- ▶ Cited in PMC

Done

Cite U Like - Adding an Article (2)

Information "automagically" added to your post

CiteULike: New article: where would you like to file it? - Mozilla Firefox

http://www.citeulike.org/posturl?username=sergiodavies&url=http%3a%2f%2fwww.ncbi.nlm.nih.gov%2fpubmed%2f14687542&title=Learning+in+spiking+neural+networks+by+reinforc

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Search | Logged in as sergiodavies Log Out

CiteULike MyCiteULike

ANNUAL REVIEWS
INSIGHTFUL RESEARCH STARTS HERE

AuthorMapper
A free analytic tool from Springer

New article: where would you like to file it?
Let us know where, and how, you want this filed.

Title: Learning in spiking neural networks by reinforcement of stochastic synaptic transmission.

Abstract: It is well-known that chemical synaptic transmission is an unreliable process, but the function of such unreliability remains unclear. Here I consider the hypothesis that the random...

Authors: Seung HS

Tags:

Note: This is just a list of keywords which you'd like to associate with the article. Prefix private tags with "*". You can also mark articles for the attention of one of your [connections](#) as "for:username"

▼ 14 tags in your library
adaptive_models artificial_neural_networks interaction learning_models mathematical_model neural_network_simulation neural_simulation neuron_plasticity pyramidal_neuron reinforcement_learning robot_behaviour synaptic_connection synaptic_rewiring trial_and_error

Suggested tags
stochastic_approximation genetic_mutation numerical_simulations model_neurons darwinian_evolution synaptic_transmission synapses intricacies neural_networks randomness facilitation probabilities gradient_reinforcement analogy_hypothesis depression_brain_failure

The automatic information importer works with these websites:

ACL Anthology, AIP Scitation, Amazon, American Chem. Soc. Publications, American Geophysical Union, American Meteorological Society Journals, American Physical Society, Annual Reviews, Anthrosource, arXiv.org e-Print archive, Association for Computing Machinery (ACM) Portal, BioMed Central, BiomedExperts, Blackwell Synergy, BMJ, Cambridge University Press, Cases Network, Cell, Chicago Journals, CiteSeer, CiteSeerX Beta, crossref-doi, Cryptology ePrint Archive, Daum, DBLP, EBI CiteXplore, EdITLib, Education Resources Information Center, EGU Journals, Elsevier, F1000, First Monday, HighWire, IEEE Digital Library, IEEE Explore, informaworld, Ingenta, IngentaConnect, IoP Electronic Journals, IOS Press, IUCr, IWA Publishing Online, Journal of Machine Learning Research, Journal of Visualized Experiment, JSTAGE, JStatSoft, JSTOR, LibraryThing, Mary Ann Liebert, MathSciNet, MetaPress, NASA Astrophysics Data System, National Bureau of Economic Research, Nature, novo|seek, Open Repository, Optical Society of America, Pion, plos, PLoS Biology, Project MUSE, PsyCONTENT, PubMed, PubMed Central, Royal Society, Royal Society of Chemistry, Science, ScienceDirect, Scopus, Social Science Research Network, SpringerLink, Usenix, Wiley InterScience, WorldCat, WormBase

Cite U Like - Main page (with a new article)

CiteULike: My library 6 articles - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.citeulike.org/user/sergiodavies

Most Visited Latest Headlines Post to CiteULike

CiteULike: Portal CiteULike: My library 6 artic... Learning in spiking neural n... Learning in spiking neural n...

citeulike | sponsored by **Springer** Search Logged in as [sergiodavies](#) Log Out

CiteULike MyCiteULike



My library 6 articles

[Hide details](#) Watch Export

- [Learning in spiking neural networks by reinforcement of stochastic synaptic transmission.](#)
Neuron, Vol. 40, No. 6. (18 December 2003), pp. 1063-1073.
by [H. Sebastian Seung](#)
posted to [no-tag](#) by [sergiodavies](#) on 2009-11-01 01:51:31 as ★★ [along with 4 people and 1 group](#)
- [Reinforcement learning I: Introduction](#)
by [Richard S. Sutton](#), [Andrew G. Barto](#)
posted to [trial and error](#) [reinforcement learning](#) [interaction](#) [artificial neural networks](#) by [sergiodavies](#) on 2009-10-13 19:20:31 as ★★
- [Efficient modelling of spiking neural networks on a scalable chip multiprocessor](#)
Neural Networks, 2008. IJCNN 2008. (IEEE World Congress on Computational Intelligence). IEEE International Joint Conference on (26 September 2008), pp. 2812-2819.
by [Xin Jin](#), [S. B. Furber](#), [J. V. Woods](#)
posted to [neural simulation](#) [neural network simulation](#) [mathematical model](#) [artificial neural networks](#) by [sergiodavies](#) on 2009-10-13 18:05:23 as ★★
- [Developmental Robotics: Manifesto and Application](#)
Philosophical Transactions: Mathematical, Physical and Engineering Sciences, Vol. 361, No. 1811. (2003), pp. 2187-2206.
by [Terry Elliott](#), [Nigel R. Shadbolt](#)
posted to [robot behaviour](#) [mathematical model](#) [learning models](#) [artificial neural networks](#) [adaptive models](#) by [sergiodavies](#) on 2009-10-13 17:34:18 as ★★ [along with 1 person](#)
- [Adaptive models in neural networks](#)
New Trends in Neural Computation, Vol. 686 (1993), pp. 193-197.
by [Panos A. Liqomenides](#)
posted to [learning models](#) [artificial neural networks](#) [adaptive models](#) by [sergiodavies](#) on 2009-10-12 17:16:59 as ★★
- [Spontaneous and evoked synaptic rewiring in the neonatal neocortex](#)
Proceedings of the National Academy of Sciences, Vol. 103, No. 35. (29 August 2006), pp. 13214-13219.
by [Jean-Vincent Le Be](#), [Henry Markram](#)
posted to [synaptic rewiring](#) [synaptic connection](#) [pyramidal neuron](#) [neuron plasticity](#) by [sergiodavies](#) on 2009-10-12 16:43:18 as ★★

Note: You may cite this page as: <http://www.citeulike.org/user/sergiodavies>

sergiodavies's tags

All tags in sergiodavies's library

Filter:

[\[Display as Cloud\]](#)

artificial neural network	4
adaptive models	2
learning models	2
mathematical model	2
interaction	1
neural network simulation	1
neural simulation	1
neuron plasticity	1
pyramidal neuron	1
reinforcement learning	1
robot behaviour	1
synaptic connection	1
synaptic rewiring	1
trial and error	1

Done

Exporting bibliography

It is possible to export the articles in a variety of formats

The screenshot shows a Mozilla Firefox browser window displaying the CiteULike user page for 'sergiodavies'. The browser's address bar shows 'http://www.citeulike.org/user/sergiodavies#'. The page title is 'CiteULike: My library 6 articles'. An 'Export' menu is open, listing the following options: RIS, BibTeX, PDF, RTF, Formatted Text, and Delicious. The main content area is titled 'My library 6 articles' and lists six articles with their titles, authors, and publication details. On the right side, there is a 'sergiodavies's tags' section with a list of tags and their counts. The browser's status bar at the bottom shows the URL 'http://www.citeulike.org/endnote/user/sergiodavies'.

Export

- RIS
- BibTeX
- PDF
- RTF
- Formatted Text
- Delicious

My library 6 articles

- Learning in spiking neural networks**
Neuron, Vol. 40, No. 6, (16 December 2005), pp. 1063-1075.
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- Efficient modelling of spiking neural networks on a scalable chip multiprocessor**
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by [Xin Jin](#), [S. B. Furber](#), [J. V. Woods](#)
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- Spontaneous and evoked synaptic rewiring in the neonatal neocortex**
Proceedings of the National Academy of Sciences, Vol. 103, No. 35. (29 August 2006), pp. 13214-13219.
by [Jean-Vincent Le Be](#), [Henry Markram](#)
posted to [synaptic_rewiring](#) [synaptic_connection](#) [pyramidal_neuron](#) [neuron_plasticity](#) by [sergiodavies](#) on 2009-10-12 16:43:18 as ★★

Note: You may cite this page as: <http://www.citeulike.org/user/sergiodavies>

sergiodavies's tags
All tags in sergiodavies's library

Filter:

[Display as Cloud]

artificial_neural_networks	4
adaptive_models	2
learning_models	2
mathematical_model	2
interaction	1
neural_network_simulation	1
neural_simulation	1
neuron_plasticity	1
pyramidal_neuron	1
reinforcement_learning	1
robot_behaviour	1
synaptic_connection	1
synaptic_rewiring	1
trial_and_error	1

<http://www.citeulike.org/endnote/user/sergiodavies>

New connection with other people and groups

Looking around, you will notice people in your same field collecting articles with similar topics to yours.

CiteULike: Portal

Reinforcement learning I: Introduction

Efficient modelling of spiking neural networks on a scalable chip multiprocessor

Developmental Robotics: Manifesto and Application

Adaptive models in neural networks

[My Library]

Activity

Most recent entry in each of your groups and connections

Connections

You don't have any connections. You can request a connection to another user by clicking **Connect** on another user's pages.

Groups

You are not a member of any groups. Why not [search](#) for a group to join? Or perhaps start your own one. Within a group where you can share articles with researchers in a field you're interested in. You can also discuss topics through group forums and blogs. Groups can be either public or private.

Watchlist

You haven't set up any watchlists yet.

Watchlist allow you to keep track of new interesting articles on the site. You can add things to your watchlist whenever you see a **watch** button on the site.

You can learn more about watchlists [here](#).

CiteGeist

Most frequently posted articles during the past week.

Posted 23 times

▶ [How To Choose a Good Scientific Problem](#)

Posted 19 times

▶ [How to write consistently boring scientific literature](#)

Name: Sergio Davies

Job title: PhD Student

Affiliation: [Not specified]

Web page: [Not specified]

What I do:

I'm a PhD student at the University of Manchester, in Computer Science and I'm doing some research on neural network plasticity and synaptic ...

Interests:

spiking neural network, neural network plasticity, synaptic rewiring, neuronal death and network recovery

[View] [Edit]

Blog

Recent blog posts

[Science papers that interest you](#)

The most recent addition to CiteULike has been article recommendations, based on a user's historical preferences for certain scientific articles and research areas. However, article recommendation is not the only possible task that can be supported on CiteULike. (15 days ago)

[Blog]

Forums

Recent forums activity

2009-10-31

- 09:40: [thegoose](#) posted a comment to forum thread [Complicated names are mangled on import, or on formatting](#)
- 02:13: [dfkotz](#) added the forum thread [Complicated names are mangled on](#)