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Date: 02Jan2015

<u>To:</u>

APEGA - Association of Professional Engineers and Geoscientists of Alberta 2200 Scotia Centre 700 2nd Street SW

Calgary, AB T2P 2W1 Tel: 403-262-7714

http://www.apega.ca

From: William Neil Howell

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Subject: Howell 150102 - APEGA Professional Development - 2013+2014 Report

This letter summarizes my Professional Development efforts in 2013 and 2014 as related to maintaining my APEGA status. This report shows that I am on-track to fulfill (perhaps surpass) my three-year requirement by 31Dec2015, and clearly that I put substantial UNPAID time and personal out-of-pocket money into professional activities. Everything in this report is volunteer work (I am currently semi-retired, but need to start a brand new career soon).

As this is my first such report since being re-instated in Alberta as a P.Eng. in 2013, I have perhaps gone overboard, but it has taken some time to properly set up for this reporting, and it will be much faster for future years.

[NOTE : This letter was not sent - there are simply 5 or six boxes to enter the summary numbers for each category. This document has been posted to : http://www.billhowell.ca/Professional%20&%20Resume/150102%20Howell%20-%20APEGA%20Professional%20Development, %202014%20Report.pdf]

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Howell - Continuing Professional Development, APEGA Requirements and Performance

Howell - Continuing Professional Development, APEGA Requirements and Performance

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	I			PDHs		4 Comments Hervell's actuals		
Category	Hours	Maximum PDHs Per Year	plan per year	2013+2014 plan	2013+2014 actual	Comments - Howell's actuals		
Professional Practice	15 hours = 1 PDH	50	0	0	0	None - unless I get a professional engineering job		
Formal Activity	1 hour = 1 PDH 1 CEU = 10 PDHs	30	OK	OK	OK	Formal activities are often for academic credit and may include an evaluation process. Where there is no evaluation, credit may be claimed in this category for activities that are over half a day in length.		
 professional development programs, courses and seminars 			5	10				
 courses offered by universities, technical institutes, colleges, suppliers, employers or technical societies 			8	16	16	Hydrogeology 3-day course at APEGA AGM, 6 2-hr tutorials at IJCNN2013 & 2014		
 courses offered in traditional classroom settings, by correspondence, by video or online 			0	0	0			
Informal Activity	1 hour = 1 PDH	30	OK	OK	OK	Informal activities are usually shorter in duration and do not involve any evaluation, but nevertheless expand your knowledge, skills and judgment.		
• self-directed study			5	10	10	>> 120 hours per year consistently!! This is required for peer review of journal and confernce papers, plus fundamental theoretical physics, climate, astronomy, history		
 attendance at conferences and industry trade shows 			10	20	20	easily >> 40 hours work and attendance every year at IJCNN 2013+2014, PLUS NPA/EU as well!!!		
 seminars, technical presentations, talks and workshops (if half a day or less) 			5	10		easily >> 20 hr/yr when I was working, APEGA and others now probably		
 attendance at meetings of technical, professional or managerial associations or societies 			5	10	10	I vastly surpass this - INNS Board, IEEE-CIS (see my timesheet summary table)		
 structured discussion of technical or professional issues with one's peers 			5	10	10	EASILY surpass! >> 30 hours/yr		
Participation	1 hour = 1 PDH	20	OK	OK	OK	Activities that promote peer interaction and provide exposure to new ideas and technologies both enhance the profession and serve the public interest.		
 appointment as a mentor to a Member-in-Training, less experienced professional member or technologist 			0	0	0			
 service on public bodies that draw on professional expertise (i.e. planning boards, development appeal boards, investigative commissions, review panels or community building committees) 			0	0	0			
 service on standing or ad-hoc committees of a technical or professional nature or managerial associations and societies 			10	20	20	Elected to Board of Governors of International Neural Network Society (INNS) for 3 years, On Organizing Committee of IJCNN 2013+2015 (Publicity Co-Chair, lots of work!), WCCI 2014 review chair, INNS-BigData2015 Publicity Co-Chair		
 activities that contribute to the community which require professional and ethical behaviour, but not necessarily the application of technical knowledge - including active service for charitable, community, religious or service organizations, coaching league sports teams, or elected public service on municipal, provincial or federal levels or school boards. 		10	0	0	7	Red Deer College student mixer, Schulich Engineering 3&4th year student dinners in 2013&2014		
Presentations - preparation & delivery	1 hr = 1 PDH	20	OK	OK	OK	Eligible presentations are those of a technical or professional nature that are discretionary, that is, outside your normal job functions.		
 at a conference, meeting, course, workshop or seminar 			20	40	0	In 2015 I hope to present at one of : NPA, EU, FOS or APEGA, but travel money will be a problem (and time!!)		
 either within a company or at an event sponsored by a technical or professional organization. 			0	0	0			

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	PDHs					
Category	Hours	Maximum PDHs Per Year	plan per year	2013+2014 plan	2013+2014 actual	Comments - Howell's actuals
Contributions to Knowledge		30	OK	OK	ОК	Activities which expand or develop the technical knowledge base in the three professions are recognized.
 develop published codes and standards 	1 hour = 1 PDH		0	0	0	
• patents	1 patent = 15		0	0	0	
 publish paper in peer-reviewed technical journal 	Poliser = 15PDHs		0	0	0	next year!
 thesis: successfully defended and approved 	30 PDHs/yr		0	0	0	nyet
• publish book = 60 PDHs, claimable over 2	60 PDHs		0	0	0	In 2015 I'll publish DVD on history!!
publish article in non-reviewed journal or internal company report	1 article = 10 PDHs	10	10	20		1. 12Dec2014 Don Scott's Birkeland current magnetic structure, I publicly posted mathematical/physics verification and my recommendations 2. 13Oct2013 Robots, Signal Processing and Control Theory - Random, stray thoughts 3. 11Oct2013 Functional magnetic resonance imaging (fMRI) - Random, stray thoughts 4. mostly in winter/spring 2014 - 2.5 months work on initial film development on history Future in 2015 - I will verify, analyse and recommend regarding: a) Ed Dowdye's "Extrinction Shift Principle" b) Charles Lucas' "Universal Force"
review articles for publication	1 hr review = 1 PDH	10	10	20	20	I VASTLY overachieve here!! (see tables) Also my depth & quality of review greatly exceeds that of most other scientists!
• edit papers for publication	1 hr editing = 1 PDH		10	20	20	I provide extensive editing for foreign-language authors when I do peer reviews. In 2015 perhaps 1 book chapter to review?
Total			103	206	153	
Requirement (80 per year) :			80	160	160	

from: APEGA "Continuing Professional Development Program" June 2006, p4

4.1 Numerical & Diversity Requirements

Years of plan/actual: A credible program must define minimum levels of effort. The unit of measure for this effort is a Professional Development Hour (PDH). There is flexibility in terms of the number of professional development categories, the period over which the minimums must be attained and the carry-forward provisions. The requirements are as follows:

• You must maintain a total of at least 240 PDHs over three years.

Note that several numbers are missing or need substantiation:

- professional development programs, courses and seminars
- courses offered by universities, technical institutes, colleges, suppliers, employers or technical societies

However, that is not critical at this time, as I am comfortable with my PD activities and progress. Next year I can add the detail.

You must include activities in at least three of the six categories.
 You can not claim more than the maximum PDHs allowed annually in each category.

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Key professional responsibilities

As stated in the cover letter, I am currently semi-retired, but plan on starting a new career within two years. Even so, I have many volunteer responsibilities of a "professional" nature :

Key professional responsibilities, memberships

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www.Dillitoweli.ca, linkal trait 025ali2015	Dat	es
	Start	End
International Neural Network Society (INNS, ~500 members)		
Elected to Board of Governors	01Nov2013	31Oct2016
Appointed as Secretary	01Dec2013	01Mar2015
Member	~1988	continual
IEEE-Computational Intelligence Society (IEEE-CIS)	~2003	continual
Member	2000	
International Lint Conference on Neural Naturalis (LICNN) and discussions and		
International Joint Conference on Neural Networks (IJCNN) www.ijcnn.org		
This conference is a collaboration between the INNS and IEEE-CIS, and is the most important such conference in the world, as well as being among the first. Most of the early scientific pioneers have participated, and apart from deaths, still do. I have helped on odd-year Organizing Committees (run by the INNS) for all but two conferences since 2003.		
2013 Dallas Texas - Publicity Chair, review committee, reviewer, attendance	03Nov2011	10Aug2013
2014 Beijing China - review committee, reviewer, attendance	20Jan 2014	12Jul2014
2015 Killarney Ireland - Publicity Co-Chair, in 2015 will review committee, reviewer, attendance	01May 2014	18Jul2015
INNS Big Data Inaugural Conference http://www.innsbigdata.org/		
This is the first such conference organized by the INNS. I was personally requested by the [founder, General Co-Chair] to lead a team on Publicity.		
2015 San Francisco - Publicity Co-Chair, review committee, reviewer, but NOT attendance	30Jul2014	15Apr2015
International Conference on Intelligent Control and Information Processing (ICICIP) h	ttp://icicip.dlut.e	edu.cn/
2014 Dalian China - reviewer, but NOT review committee, attendance	05May2014	09Jun2014
IEEE Symposium Series on Computational Intelligence (SSCI) http://www.ieee-ssci.org		
2013 Singapore - reviewer, but NOT review committee, attendance	18Dec2012	01Jan2013
2014 Orlando, Florida - reviewer, but NOT review committee, attendance	04Jun2014	20Aug2014
TEEL Later stimul Communium on IN constitution in Intelligent Court	TMICTA	
3 1	INISTA)	1642012
2013 - reviewer, but NOT review committee, attendance	14Apr2013	16Apr2013

This list does NOT include my membership in non-professional scientific organisations, especially in the areas of fundamental theoretical physics, astronomy, climate science/non-science, and history (mostly on my own).

Review committee - means that I was responsible for selecting reviewers (usually for 5 papers) and following up on their work, finding replacements if necessary.

Please note that I am definitely NOT a "passive" committee member like so many others that take the title and do the minimum effort (or no effort). I put a LOT of time into my engagements!

endpage

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List of Courses, seminars, conference attendance

I didn't get around to creating a formal list, although several are mentioned in the table "Howell - Continuing Professional Development, APEGA Requirements and Performance". Next year I'll be more specific.

endpage

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2013 + 2014 summary of my time related to Professional Development

Bill Howell, AP	EGA reporting	- Summ	ary of tim	eLog for	period
Date_start :	01/Jan/13				
Date_end :	31/Dec/14				
Warning : Activity times	overlap. The total is t	ne sum of greer	n-shaded areas a	nd is correct.	
Project Name	Sub-project	Sub - sub	Car	Activity time (hrs)	% of activity hrs
Neural Nets				1,054	93.0%
Neural Nets	INNS			55	4.8%
Neural Nets	IJCNN2013			156	13.7%
Neural Nets	IJCNN2014			127	11.2%
Neural Nets	IJCNN2015			175	15.5%
Neural Nets	BigData2015			74	6.5%
Neural Nets	ICICIP2014			41	3.6%
Neural Nets	SSCI2014			12	1.0%
Neural Nets	INISTA			12	1.0%
Neural Nets	People			16	1.4%
Neural Nets		reviews		499	44.0%
Neural Nets		Publicity		208	18.3%
Neural Nets		attend		148	13.1%
MyClubs	APEGA			67	5.9%
MyClubs	APEGA	ProfDey		37	3.2%
MyClubs	APEGA	AGM		16	1.4%
MyClubs	IEEE S Alta			6	0.5%
MyClubs	IEEE-Calgary			1	0.1%
MyClubs	IEEE S Alta			6	0.5%
Total hours for activi	ties during the spec	ified period		1,134	100.0%
Total overall hours of peri	od (24h/d), and Total ac	tivity hours as	% of overall	17,496	6.5%

I must emphasize a few points related to my scientific peer reviews for journals and conferences.

- To begin with, these account for >500 hours of effort in the two years reported!
- My reviews are in EXTREMELY advanced areas of science, and much of it over the last two years required verification of mathematical theorems and proofs. Some of it touches on what I consider to be THE most advanced control theory there is (not at the system level, but the fundamental conceptual and theoretical levels). See "Example Lisiting of Neural Networks journal peer reviews" below.
- The way I do my peer reviews greatly surpasses the effort and depth of the vast majority of other peer reviewers, even for advanced scientific journals. I see this regularly as a review chair, and with feedback from all reviews for the NN journal. I am NOT an expert in most areas, so I cannot claim to come up with the RARE insightful comment that a very few experts occasionally do, but I do catch many conceptual and math theorem errors. As two recent examples, see my reviews posted at:
 - http://www.billhowell.ca/Neural%20nets/Howell%20140116%20example%20peer%20review
 %20-%20Anti-Windup%20for%20time-varying%20delayed%20CNNs%20subject%20to%20Input%20Saturation.pdf
 - http://www.billhowell.ca/Neural%20nets/Howell%20141014%20example%20peer%20review%20-%20Fully %20probabilistic%20control.pdf

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Sample of TimeLog details as an example of verifiable backup for my numbers.

(This is a very small fraction of what was used to make my report.)

Date	Day	Start	End	Net	<u>ا</u>	Project N	a Sub-proje		Car	Todo	Done
	-				period_sel	Project Na					
					perio	dat		qns - qnS			
20-Nov-13	Wed	19:01		0.2	_	MyClubs	APEGA	v		Pay 304\$ + 100\$ donation	can't pay online?
20-Nov-13	Wed			1.8		MyClubs				create "Continuing	DONE - easily meet
17-Jan-14	Fri	13:50		0.2		MyClubs	APEGA			Register – 23Jan2013	-
19-Jan-14	Mon	23:49		0.2		MyClubs	APEGA	AGM		register AGM 30Jan2013	
23-Jan-14	Thu	11:00		0.6		MyClubs	APEGA	AGM		preps to go to APEGA	
23-Jan-14	Thu			2.8		MyClubs		ProfDev		walk in big circle to	
23-Jan-14	Thu			0.2		MyClubs		ProfDev		unload Nissan	
24-Jan-14		15:40		0.3		MyClubs		students		Emrep Susan Armitage, I	
24-Feb-14	Tue			0.1		MyClubs		students		Reminder Plan to Attend -	confirmed tomorrow
26-Feb-14	Wed			0.7		6 MyClubs		students		Preps – goto Red Deer	print map, vidcam
26-Feb-14	Wed	13:09 16:42		0.6 4.9		MyClubs		students		Preps – goto Red Deer	bath
26-Feb-14 26-Feb-14		00:04		0.2		6 MyClubs MyClubs		students students		goto Red Deer 12:00 - unload GMC	walked around, salad,
04-Mar-14	Tue			1.6		MyClubs		students		Prof Development	goto AGM, get job
25-Mar-14	Tue			2.2		1 MyClubs				~18:50 election town hall	purchase cheese @
27-Mar-14	Thu			0.5		9 MyClubs		ProfDev		goto Calgary - Critical	NYET - No room left!
31-Mar-14	Mon			0.8		14 MyClubs				VOTE today!!	APEGA 2014
31-Mar-14		13:35		0.7		MyClubs		AGM		registration for Annual	Done! - 800\$!!! (700
03-Apr-14	Thu	14:25		0.2		MyClubs	APEGA	ProfDev		16Apr2014 luncheon	•
07-Apr-14	Mon	10:48		0.5		15 MyClubs	APEGA	AGM		book hotel, Note 175	Days Inn
16-Apr-14	Wed	08:49		0.7		MyClubs	APEGA	ProfDev		preps luncheon - Wellbore	iron shirt/ pants/ tie,
16-Apr-14	Wed	10:51		3.2		2 MyClubs	APEGA	ProfDev		luncheon - Wellbore	
16-Apr-14	Wed			0.4		MyClubs		ProfDev		unload Nissan	
23-Apr-14	Wed			0.8		MyClubs		ProfDev		clothes - iron, laundromat	can't find car keys!!
23-Apr-14		10:30		0.6		MyClubs		ProfDev		APEGA notes and program	
23-Apr-14	Wed			0.2		MyClubs		ProfDev		preps - trip to Edmonton	print ToDos, projects
23-Apr-14		12:31		0.6		MyClubs		ProfDev		load car, park GMC in	
23-Apr-14 24-Apr-14	Wed Thu			0.1 5.6		MyClubs MyClubs		ProfDev ProfDev		travel checks	Mallhoro Intogrity
24-Apr-14 24-Apr-14		13:00		4.0		MyClubs		ProfDev		PD, coffee, register, meet PD course - Wellbore	Wellbore Integrity - with coffee break
24-Apr-14	Thu			0.5		MyClubs		ProfDev		unload Nissan - Days Inn	setup computer
25-Apr-14	Fri			0.3		MyClubs		ProfDev		walk to ShawCC	scrap comparer
25-Apr-14	Fri			0.5		MyClubs		ProfDev		coffee, talk, etc	
25-Apr-14	Fri	08:30		3.5		MyClubs		ProfDev		PD course - Wellbore	with coffee break
25-Apr-14	Fri	13:00		4.0		MyClubs	APEGA	ProfDev		PD course - Wellbore	with coffee break
25-Apr-14	Fri	17:00		0.3		MyClubs	APEGA	ProfDev		walk to Days Inn	
25-Apr-14	Fri	17:55		0.3		MyClubs	APEGA	AGM		walk to Westin Edmonton	
25-Apr-14	Fri			5.4		MyClubs		AGM		German beer night, great	
25-Apr-14	Fri			0.3		MyClubs		AGM		walk to Days Inn	
26-Apr-14	Sat			0.6		MyClubs		AGM		pack bags into Nissan	
26-Apr-14	Sat			0.3		MyClubs		AGM		walk to Westin Edmonton	
26-Apr-14	Sat			1.2		MyClubs		AGM		breakfast - came with	aaffaa buaal
26-Apr-14	Sat	09:00		3.5		MyClubs		AGM		actual meeting	coffee break with
26-Apr-14 26-Apr-14	Sat Sat			1.7 0.3		MyClubs MyClubs		AGM AGM		luncheon - Rex Murphy walk to Days Inn	
26-Apr-14	Sat			0.3		MyClubs		AGM		preps - drive home	
26-Apr-14		21:28		0.4		MyClubs		AGM		unload Nissan	incomplete
27-Apr-14	Sun	07:29		0.2		MyClubs		ProfDev		unload Nissan	meompiete
28-May-14				0.2		MyClubs			Mom		no can do - sold out!
04-Jun-14	Wed			0.6		MyClubs		ProfDev		Spreps - Gerry Maier	
04-Jun-14	Wed			5.8		MyClubs		ProfDev		Gerry Maier presentation	
04-Jun-14	Wed			0.1		MyClubs		ProfDev		unload Nissan	partly
05-Jun-14	Thu	06:30		0.2		MyClubs	APEGA	ProfDev		unload Nissan	laundry, Copenhagen
10-Nov-14	Mon	11:18		0.5		4 MyClubs	APEGA	ProfDev		reservations for PD course	what a mess
26-Nov-14	Wed	16:37		0.5		MyClubs		survey		online filled in	DONE
11-Dec-14	Thu	08:35				1 MyClubs		ProfDev		preps - 11:15 APEGA	can't find Laverdure's
11-Dec-14	Thu	L				1 MyClubs		ProfDev		11:15 APEGA lunch,	
01-Jan-15	Thu			1.1		8 MyClubs		self-develop		write up years activities	list of NN reviews
01-Jan-15	Thu	09:45	l	2.3		MyClubs	APEGA	self-develop		write up years activities	list of NN reviews

NOTE: The hours are taken from a log book accurate to within 5 minutes "normally", but with many omissions. Estimates are therefore a lower bound!!

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Example - Lisiting of Neural Networks journal peer reviews

			Editor's Vame		iis of a subjects :curately ment and of these		sufficient re locally capacity ocally		oer a of the e systems e ss, explicit critic	
			Days Taken	23	tivity of the state of treat of treat of the state of the	25	ous ertain hich a orage oe 3n b	24	n this pap of reliable or all the put value adaptive ple is use	28
			Submitted	16Nov14	ips of subje the connect rom three c classifies m response tu ind the cha ited it.	210ct14	discontinuo o develop c nts, 3n of w tgreater sto unctions, th intonic stru	12Sep14	ethods. In the sity function absence of I (IDNs) where on the inpuring and addition example	18Apr14
		teview	Done	21Nov14	ifferent gro analysis of a collected sed method ed to predict nt subjects that gener	240ct14	tworks with is are used to illibrium point in the can haw a activation the non-moint in esults.	16Sep14	ic control mapping the sapplication of the sap	18Apr14
		Date Review	рээлЗү	240ct14	ilitions and of ically on the disease of differences of difference	26Sep14	or neural ne salytical tool least 5n equeural netwo contin- nous ons, due to differentical differentical differentical salvants.	19Aug14	y probabilist al joint prob alist probabilist aligning proporture density che density is of dynamic ideal one	21Mar14
			рајуиј	240ct14	fferent cond more specifi this metho ontrol group nethods thal rain activiti and the brai	26Sep14	um points for and other an have at landing the sufficient of the suff of the suff of the discussion of the suff of the derived regions.	18Aug14	signed using sen the actu systematica using mixth andency of t e technique t to follow th	21Mar14
			Final Disposition		changes in brain activity across dif etwork (SNN) framework [18] and re crase study data used to ilustrate it, and a non-drug users/healthy co ical and artificial intelligence (A) in he used to compare functional b inderstanding of both the EEG data.		equilibriu beorem an delays ca the discor al networl so unsatu I support t	Accept	tently des nce betwe ny can be cess data this depo nrough the	Accept
ASc.			Current	Revise		Under Review	rs of multiple efixed point t i time-varying t reveals that ability of neu regions, but a	10Dec14 Completed - Accept Accept	certainties can be consist (XII) back-telbler diverger (XII) back-telbler diverger is are estimated from prox an estimated from prox out dependent. Based on ontrollers are obtained the conditional joint pdfs can sults are obtained.	02Jun14 Completed - Accept Accept
vell, M.			Status Date	03Dec14 Revise		24Dec14 Under Reviev	al be- havio delays. The tworks with lits is that if s on multist. saturated ro onducted to	10Dec14		02Jun14
Neural Networks journal - Reviews by William Neil Howell, M.ASc.	www.BillHowell.ca		Article Title	Article Analysis of connectivity in NeuCube spiking neural network models trained on EEG data for the understanding and prediction of functional changes in the brain: A case study on opiate dependence treatment	The paper presents a new methodology for the analysis of functional changes in brain activity across different conditions and different groups of subjects. This analysis is based on the recently proposed Neuclube splaining neural network (SMN) framework [118] and more specifically on the analysis of the connectivity of a hardyle of the connectivity of a NeuClube model trained with electroencephalography (EEG) data. The case study data used to illustrate this method is EEG data collected from three groups - subjects with opiate addiction, some taking methodore maintenance treatment, and a non-drug users/healthy control group. The proposed method classifies more accurately the EEG data from different groups of subjects than traditional statistical and artificial intelligence (AI) methods that can be used to predict response to be earthern and the appropriate doesage of fung. But more importantly, the method can be used to compare functional brain activities of different subjects and the changes of these activities as a result of treatment, which is a step towards a better understanding of both the EEG data and the brain processes that generated it.	Article Multistability of Neural Networks with Discontinuous Non-monotonic Piecewise Linear Activation Functions and Time-Varying Delays	This paper is concerned with the problem of coexistence and dynamical be-haviors of multiple equilibrium points for neural networks with discontinuous non-monotonic piecewise linear advancions and inter-varying delays. The fixed point theorem and other analytical books are used to develop certain sufficient conditions that ensure that the n-dimensional discontinuous neural networks with time-varying delays, can have at least 5n equilibrium points, 3n of which are locally stable and the others are unstable. The importance of the derived results is that it reveals that the discontinuous neural networks can have greater storage capacity than the continuous neural networks can have greater storage capacity than the continuous ones. Moreover, different from the existing results on multistability of neural networks with discontin- uous activation functions, the 3n locally stable equilibrium points obtained in this paper are located in not only saturated regions, but also unsaturated regions, due to the non-mondronic structure of discontinuous activation func- tions. A numerical simulation study is conducted to illustrate and support the derived theoretical results.	Article Fully Probabilistic Control for Stochastic Norlinear Control Systems with Input Dependent Noise	Robust controllers for nonlinear stochastic systems with functional uncertainties can be consistently designed using probabilistic control methods. In this paper a generalised probabilistic controller design for the minimisation of the Kullback-Lebbler divergence between the actual ignit probability density function (pdf) of the closed probabilistic controller design for the minimisation of the kullback-Lebbler divergence between the actual ignit point	Article Synchronization of memristor-based recurrent neural networks with two delay components based on second-order reciprocally convex approach
Neural No	since 2007	2013+2014	Manuscript Aumber	NEUNET-D-1 4-00410	L 10 2 3 1 1 1	A-00379	P 2 0 11 11 0	NEUNET-D-1 4-00166R1	<u> </u>	NEUNET-D-1 4-00130
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ort	0	11	Total length (ASCII ldsytes)							
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	Status Date	t neural nel yn- chroniza ctivation fu 'unctional (I g Jensen's in g Jensen's in y extending	12Aug14	er among the and require function ins function ins int data sets fur pot the adv. sased appropriate of 0% to 6(accuracy.	25Feb14	est biometrant wavelet fail to delive inhance the on and mult is proposed at the proposed at the proposed.	13Mar14	state satur g the conve t saturation constrained llated, and t proposed d
	Article Title	We extend the notion of Synchronization of memristor-based recurrent neural networks with two delay components based on second-order reciprocally convex approach. Some sufficient conditions are obtained to guarantee the syn-chronization of the memristor-based recurrent neural networks via delay-dependent output feedbaack controller in terms of linear matrix inequalities (LMIs). The activation functions are assumed to be of further common descrip: tions, which take a broad view and recover many of those existing methods. A Lyapunov-Krasovskii functional (LKF) with triple-integral terms is addressed in this paper to condense conservatism in the synchronization of systems with additive time-varying delays. The plenser is inequality is applied in particional double integral terms in the derivative tion of LMIs and then a new kind of linear combination of positive functions weighted by the inverses of squared convex parameters have emerged. Meanwhile, this paper put forward a well-organized method to manipulate such a combination by extending the lower bound lemma. The obtained conditions not only have less conservatism but also have less decision variables than existing results. Finally, numerical results and its simulations are given to show the effectiveness of the proposed memristor-based synchronization control scheme.	Article Logarithmic Learning for Generalized Classier Neural Network	Generalized classier neural network is introduced as an ecient classi- er among the others. Unless initial smoothing parameter value is close to optimal one, generalized classier neural network sues from convergence problem by this work, a logarithmic operated classier neural network stores from convergence problem in this work, a logarithmic rost function instead of squared error. Minimization of this function reduces the number of iterations learning method less proposed. Poposed method uses logarithmic cost function instead of squared error. Minimization of this function into the classier neural network proposed logarithmic approach and its derivation between the sast and performance of logarithmic approach and its derivation between the sast of radial basis function included by generalized classier neural network, proposed logarithmic approach and its derivative has continuous values. This makes it possible to adopt the advantage of logarithmic fast convergence by the proposed learning method. Due to fast convergence ability of logarithmic cost function, training it time is decreased approximately in the stange of 0% to 90.2%. In addition to decrease in training time, dassication performance is also improved approximately in the range of 0%, to 60%. According to the test results, while proposed method solves time requirement problem of generalized classier neural network.	Article An Enhancedapproach for Ins recogniton Using Fusion of Payt with Gabor Wavelet Transformand Daugman Encoding	This paper discusses iris recognition, which is accepted as one of the best biometric methods for identifying an individual. A comparative analysis is done for eight algorithms namely DCWI, PMI, SWI, CWI, DBB. Complex dual tree, Haar wavelet and Wavelet packet for extracting the relative from its innange. Extracting the risk algorithms. Rast Wavelet Transform (FWI) delivers 72.9 percent accuracy. This paper suggests a better way to enhance the accuracy using the fast Wavelet Transform such the use of Gabor Wavelet Transform and Dataman algorithm. Gabor Wavelet Transform with the use of Gabor Wavelet Transform and Dataman algorithm has computational simplicity and speed, which sales which makes it popular for feature extraction. Dataman algorithm has computational simplicity and speed, which supposes the proposed method. Learning Wector Quantization (LVQ) neural network is used in the authentication unit. Results from confusion matrix and ROC shows that the proposed method produces cent percent accuracy. This implies that the effectiveness in authenticating the right person will be higher.	Article Anti-Windup for time-varying delayed cellular neural networks Subject to Input Saturation	This paper deals with the problem of anti-windup design for a class of state saturation systems subject to time-varying delayed cellular neural networks and input saturation. By introducing the saturation degree function and applying the convex hull theory to handle the saturated terms, we firstly put forward a stabilization controller for the time-varying delayed system at the absence of input saturation via LMI formulation according to Lyapunov-Krasovskii theorem. Then the anti-windup gain matrix is delived to compensate for the difference between the constrained and unconstrained systems in the presence of input saturation. Further, the enlargement to the basin of attraction under input saturation is formulated, and the corresponding optimization problem with LMI constraints is given. Finally, numerical examples are included to illustrate the effectiveness of the proposed design technique.
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The aim of this paper was to analyze continuous 24 hour cortical LP recordings from MeCP2-deficient mice to extract distributions of SLE and inter-SLE durations; and infer the mechanisms involved in seizure generation in an invivo mouse model of Rets synchrone. In summary, we have shown the SLEs from the MeCP2-deficient mouse model exhibits similar characteristics to absence seizures. As a result it is difficult to predict when the seizures will occur, but once they do, it may be possible to reduce their durations. These findings highlight the importance of early detection of seizure state initiation. To improve detection, future work will use multiple recording electrodes to evaluate interaction across various brain regions in SLE initiation, and a higher sampling rate would allow for studying high frequency oscillations (HCDs), which have been associated with seizure initiation (23) many as a higher sampling rate would allow for studying high the disruption in delta rhythm provide a starting point for developing treatments for a condition lacking treatment options. interests and tracking variations of users' interests in time are really important to researches such as opinion mining, trend pre-diction and personalized services. However, this is an extremely difficult task as the highly dynamic characteristics of data. And current community detec-tion methods are time comsuming and hard to More and more users keep interacting, sharing, and collaborating through social networks. Unprecedented growth in social tagging systems is making accessible the perspectives of millions of unstructured user generated content. From such a large amount of unstructured data, distilling the communities with users having common process the data in real-time. As the unstructured data is dynamic in nature and could reflect changes of users' activities over time, it is possible to detect temporal group formation and users' transient interests. In this paper, the dynamic unstructured data is modeled by social data stream and an incremental scalable community de-tection method is proposed based on locality-sensitive hash. Moreover, not only words used by users but also the latent interactions among users are incorporated into the community detection method. In the experements, users' social dynamic behaviors are analyzed firstly. Then, the proposed method is compared with state-of-the-art methods and the results demonstrate that it could detect communities efficiently and accurately. In this paper, a class of memistor-based recurrent neural network with perhurbations is studied. Some criteria are obtained to guarantee the synchro-nization of the memistor-based recurrent neural network with impulsive and boundary perturbations, respectively. The analysis in this paper employs the differential inclusions theory and the Lyapunov functional method. Numerical examples are given to show the effectiveness of our results. Combined forecasters have been in the vanguard of stochastic time series modelling. In this way it has been usual to suppose that each single model generates a residue or prediction error like a white noise. However, mostly because of disturbances not captured by each model, it is yet possible that such supposition is violated. The present paper introduces a two-step method for correcting and combining forecasting models, in particular Artificial Neural Network models like. Firstly, the stochastic process underlying the bias of each predictive model is built according to a recursive ARIMA algorithm in order to achieve a white noise behavior. At each firstly not the algorithm the best ARIMA algorithm to be set ARIMA algorithm to a given in order to achieve a white noise behavior. At predictions, it is considered a maximum likelihood combined estimator. Applications involv- ing single artificial neural networks models for Dow Jones Industrial Average Index and S&P500 series illustrate the usefulness of the proposed framework. Editor's Name 유 **D**ауs Такеп 01Aug13 28Apr13 07Apr13 Submitted 13Aug13 05May13 09Apr13 Date Review Done 02Jul13 24Mar13 26Feb13 rgreed 01Jul13 20Mar13 26Feb13 pativuI Accept 280ct13 Completed - Accept Accept 06May13 Completed - Accept Accept Final Disposition 22Jan14 Completed -Accept 27May14 Completed Current Status Accept Status Date Synchronization control of memristor-based recurrent neural networks with perturbations Characterization of Seizure-Like Events Recorded in vivo in a Mouse Model of Rett Syndrome An Incremental Community Detection Method for Social Tagging Systems Using Locality-Sensitive Hashing Correcting and Combining Time Series Forecasters Article Title Article Article Article Article Type 3-00067 NEUNET-D-1 3-00233 NEUNET-D-1 3-00187 NEUNET-D-1 3013+2014 3-00061 Мувечеме iotal lengt dytes) HOSA) (ASCII (eaytes) ւլա**տ (ի**ւ) waivar lo #

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