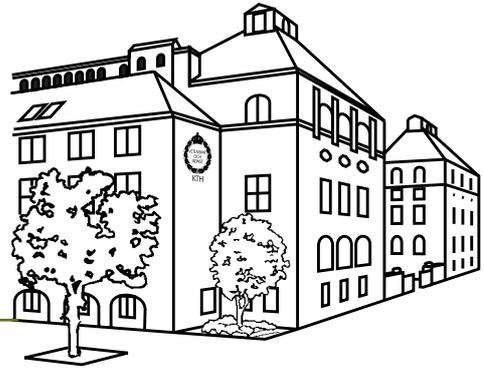


Numero

Veckobladet om forskning, undervisning och administration
på Skolan för datavetenskap och kommunikation



Numero nr 20

1 juni 2006 • Årgång 36

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Numero är institutionstidningen

på Skolan för datavetenskap och kommunikation vid KTH. Numero utkommer normalt på torsdagsförmiddagar under teminstid.

Manus måste lämnas in före kl. 12 på onsdagar. Manus, tips, förslag och andra bidrag till Numero kan lämnas på något av följande sätt:

- via e-post till numero@nada.kth.se
- på papper till Nada, Numero, KTH, 100 44 STOCKHOLM (dvs. facket "Numero" bland postfacken på pl 4)

Bidrag för artiklar och notiser bör i största möjliga mån vara färdigformulerade och korrekturlästa.

Varje Numeronummer utkommer i två former:

- På papper för normal postdistribution
- <http://www.csc.kth.se/aktuellt/numero/>

Numeroredaktionen består av Maria Engström. Ansvarig utgivare är Ingrid Melinder. Numeros innehåll uttrycker inte institutionens officiella ståndpunkt annat än då detta anges.

Best Student Paper på STOC '06 till TCS-doktorand

Jakob Nordström på teorigruppen har fått Danny Lewin Best Student Paper Award på konferensen 38th ACM Symposium on Theory of Computing (STOC '06) som hålls i Seattle, USA 21-23 maj 2006.

STOC är, tillsammans med konferensen FOCS som hålls på hösten varje år, den bästa konferensen som finns inom teoretisk datalogi, och konkurrensen för att få artiklar accepterade till konferensen är knivskarp. Jakobs artikel "Narrow Proofs May Be Spacious: Separating Space and Width in Resolution", har inte bara blivit accepterad, utan alltså även fått pris som bästa artikel av doktorand (delat med en annan artikel).

Detta är första gången någonsin som en svensk doktorand får detta pris och det naturligtvis oerhört roligt för oss på teorigruppen, för KTH CSC, och för hela Kungliga Tekniska högskolan.

Jakob kommer att hålla ett föredrag om sin artikel i teorigruppens seminarier torsdagen den 8 juni kl 13.15 (se separat annonsering i Numero sid 3).

Hälsningar, Stefan Arnborg

INBJUDAN

Fortsättningskurs HANDLEDNING OCH LEDARSKAP, del II

En tvådagars påbyggnadsutbildning för handledare vid Naturvetenskapliga fakulteten, den 14 – 15 september 2006.
Plats: Tammsviks kursgård (internat)

Innehåll: Utbildningen utgör en fortsättning på grundkursen i Handledning och Ledarskap. Undervisningen ska ge fördjupad kunskap och färdighet inom följande områden:

- gruppdynamiska processer i handlednings- och forskargrupper
- krissamtal – stödsamtal – arbetsledande samtal
- personlighetsmässiga och kulturella faktorer betydelse i en handledningssituation
- modeller för reflexion över handledningsprocessen
- träning i skriftlig och muntlig återkoppling i en handledningssituation
- processinriktade samtal vid konflikthantering

Deltagare: Kursen vänder sig till handledare som deltagit i fakultetens grundkurs "Handledning och Ledarskap" och i första hand de som deltagit före 2003.
Antalet deltagare är begränsat till 14!

Kursledning:
Universitetslektorerna Krister Gerner och Ragnar Hagdahl, Institutet för tillämpad beteendevetenskap (ITB), psykologiska institutionen, SU.
Kursen ges på svenska.

Anmälan: Anmälan ska vara fakultetskansliet, att. Bibi Pehrson, Bloms Hus, Frescati, tillhanda senast 2006-06-15.

Seminarium för handledare i forskarutbildningen

Fakultetens Forskarutbildningsberedning planerar ett seminarium för handledare i forskarutbildningen inom Naturvetenskapliga fakulteten, Stockholms Universitet

Tisdagen den 10 oktober 2006 kl 13 - ca 17

Preliminärt program:
Introduktion av dekanus
Presentation av biologernas introduktionskurs
Matematikernas mentorsprogram
Kommunikationen handledare-doktorand
Konsekvenser för forskarutbildningen av Bologna
Avslutning med öl och macka

Närmare information om kommer i mitten av september.

På uppdrag av Forskarutbildningsberedningen

Birgitta Eriksson

Disputation: **A Gaming Perspective on Command and Control**

Joel Brynielsson, KTH

torsdagen den 15 juni 2006 kl 14.00
i sal E3, Osquars backe 14,
Kungliga Tekniska högskolan, Stockholm.

Abstract

In emergency management and in military operations, command and control comprises the collection of functions, systems and staff personnel that one or several executives draw on to arrive at decisions and seeing that these decisions are carried out. The large amount of available information coupled with modern computers and computer networks brings along the potential for making well-informed and quick decisions. Hence, decision-making is a central aspect in command and control, emphasizing an obvious need for development of adequate decision-supporting tools to be used in command and control centers. However, command and control takes place in a versatile environment, including both humans and artifacts, making the design of useful computer tools both challenging and multi-faceted.

This thesis deals with preparatory action

in command and control settings with a focus on the strategic properties of a situation, i.e., to aid commanders in their operational planning activities with the utmost goal of ensuring that strategic interaction occurs under the most favorable circumstances possible. The thesis highlights and investigates the common features of interaction by approaching them broadly using a gaming perspective, taking into account various forms of strategic interaction in command and control. This governing idea, the command and control gaming perspective, is considered an overall contribution of the thesis.

Taking the gaming perspective, it turns out that the area ought to be approached from several research directions. In particular, the persistent gap between theory and applications can be bridged by approaching the command and control gaming perspective using both an applied and a theoretical research direction. On the one hand, the area of game theory in conjunction with research findings stemming from artificial intelligence need to be modified to be of use in applied command and control settings. On the other hand, existing games and simulations need to be adapted further to take theoretical game models into account.

Results include the following points:

(1) classification of information with proposed measurements for a piece of information's precision, fitness for purpose and expected benefit, (2) identification of decision help and decision analysis as the two main directions for development of computerized tools in support of command and control, (3) development and implementation of a rule based algorithm for map-based decision analysis, (4) construction of an open source generic simulation environment to support command and control microworld research, (5) development of a generic tool for prediction of forthcoming troop movements using an algorithm stemming from particle filtering, (6) a non-linear multi-attribute utility function intended to take prevailing cognitive decision-making models into account, and (7) a framework based on game theory and influence diagrams to be used for command and control situation awareness enhancements. Field evaluations in cooperation with military commanders as well as game-theoretic computer experiments are presented in support of the results.

Keywords: command and control, decision-making, situation awareness, data fusion, simulation, gaming, experimentation, microworld research, graphical modeling, game theory, rationality

TRITA-CSC-A 2006:07 • ISSN 1653-5723
ISRN KTH/CSC/A--06/07--SE • ISBN 91-7178-365-2

Seminar at CBN

Olfactory memory

Maria Larsson, Psychology department, Stockholm university

Friday June 2 at 10.15 in 4523

Välkomna! /Erik

Disputation

Language Technology for the Lazy – Avoiding Work by Using Statistics and Machine Learning

Jonas Sjöbergh, TCS, KTH

14 juni kl. 14.00 i Salongen KTHB

Language technology is when a computer processes human languages in some way. Since human languages are irregular and hard to define in detail, this is often difficult. Despite this, good results can many times be achieved. Often a lot of manual work is used in creating these systems though. While this usually gives good results, it is not always desirable. For smaller languages the resources for manual work might not be available, since it is usually time consuming and expensive.

This thesis discusses methods for language processing where manual work is kept to a minimum. Instead, the computer does most of the work. This usually means basing the language processing methods on statistical information. These kinds of methods can normally be applied to other languages than they were originally developed for, without requiring much manual work for the language transition.

The first half of the thesis mainly deals with methods that are useful as tools for other language processing methods. Ways to improve part of speech tagging, which is an important part in many language processing systems, without using manual work, are examined. Statistical methods for analysis of compound words, also useful in language processing, is also discussed.

The first part is rounded off by a presentation of methods for evaluation of language processing systems. As languages are not very clearly defined, it is hard to prove that a system does anything useful. Thus it is very important to evaluate systems, to see if they are useful. Evaluation usually entails manual work, but in this thesis two methods with minimal manual work are presented. One uses a manually developed resource for evaluating other properties than originally intended with no extra work. The other method shows how to calculate an estimate of the system performance without using any manual work at all.

In the second half of the thesis, language technology tools that are in themselves useful for a human user are presented. This includes statistical methods for detecting errors in texts. These methods complement traditional methods, based on manually written error detection rules, for instance by being able to detect errors that the rule writer could not imagine that writers could make.

Two methods for automatic summarization are also presented. One is based on comparing the overall impression of the summary to that of the original text. This is based on statistical methods for measuring the contents of a text. The second method tries to mitigate the common problem of very sudden topic shifts in automatically generated summaries.

After this, a modified method for automatically creating a lexicon between two languages by using lexicons to a common intermediary language is presented. This type of method is useful since there

are many language pairs in the world lacking a lexicon, but many languages have lexicons available with translations to one of the larger languages of the world, for instance English. The modifications were intended to improve the coverage of the lexicon, possibly at the cost of lower translation quality.

Finally a program for generating puns in Japanese is presented. The generated puns are not very funny, the main purpose of the program is to test the hypothesis that by using “bad words” things become a little bit more funny.

TCS-seminarium 8/6.

Narrow Proofs May Be Spacious: Separating Space and Width in Resolution

Jakob Nordström, Theory Group, KTH CSC

Thursday June 8, 13:15, room 1537:

Resolution is a proof system for proving tautologies in propositional logic. It works by showing that the negation of a tautology, encoded as a CNF formula, is unsatisfiable. There is only one derivation rule, namely that from the clauses $C \vee x$ and $D \vee \neg x$ we can resolve on the variable x to derive the resolvent clause $C \vee D$. A resolution proof refutes an unsatisfiable formula F by deriving the empty clause 0, i.e., the clause with no literals, from F .

Because of its simplicity, resolution is well adapted to proof search algorithms. Many real-world automated theorem provers are based on resolution. It is also perhaps the single most studied propositional proof system from a theoretical point of view in the area of proof complexity.

The width of a resolution proof is the maximal number of literals in any clause of the proof. The space of a proof is, intuitively, the maximal number of clauses one needs to keep in memory while verifying the proof. Both of these measures have previously been studied and related to the resolution refutation size of unsatisfiable CNF formulas. Also, the refutation space of a formula has been proven to be at least as large as the refutation width, but it has been open whether space can be separated from width or the two measures coincide asymptotically. We prove that there is a family of k -CNF formulas for which the refutation width in resolution is constant but the refutation space is non-constant, thus solving a problem mentioned in several previous papers.

Our result has been published as ECCC Report TR05-066, and an extended abstract will appear in STOC '06 (co-winner of Danny Lewin Best Student Paper Award).

The talk will be given in Swedish or English depending on the participants, and is intended to last for 2x45 minutes.

Per Austrin

TGIF 16 juni - info kommer i postfacket

Licentiate Thesis:

Information Processing in the Striatum – a Computational Study

Johannes Hjort, Datalogi, KTH

14 juni 2006 klockan 14.00
i sal E32, Lindstedsvägen 3,
Kungl Tekniska högskolan, Stockholm.

Abstract

The basal ganglia form an important structure centrally placed in the brain. They receive input from motor, associative and limbic areas, and produce output mainly to the thalamus and the brain stem. The basal ganglia have been implied in cognitive and motor functions. One way to understand the basal ganglia is to take a look at the diseases that affect them. Both Parkinson's disease and Huntington's disease with their motor problems are results of malfunctioning basal ganglia. There are also indications that these diseases affect cognitive functions. Drug addiction is another example that involves this structure, which is also important for motivation and selection of behaviour.

In this licentiate thesis I am laying the groundwork for a detailed model of the striatum, which is the input stage of the basal ganglia. The striatum receives glutamatergic input from the cortex and thalamus, as well as dopaminergic input from substantia nigra. The majority of the neurons in the striatum are medium spiny (MS) projection neurons that project mainly to globus pallidus but also to other neurons in the striatum and to both dopamine producing and GABAergic neurons in substantia nigra. In addition to the MS neurons there are fast spiking (FS) interneurons that are in a position to regulate the firing of the MS neurons. These FS neurons are few, but connected into large networks through electrical synapses that could synchronise their effect. By forming strong inhibitory synapses on the MS neurons the FS neurons have a powerful influence on the striatal output. The inhibitory output of the basal ganglia on the thalamus is believed to keep prepared motor commands on hold, but once one of them is disinhibited, then the selected motor command is executed. This disinhibition is initiated in the striatum by the MS neurons.

Both MS and FS neurons are active during so called up-states, which are periods of elevated cortical input to striatum. Here I have studied the FS neurons and their ability to detect such up-states. This is important because FS neurons can delay spikes in MS neurons and the time between up-state onset and the first spike in the MS neurons is correlated with the amount of calcium entering the MS neuron, which in turn might have implications for plasticity and learning of new behaviours. The effect of different combinations of electrical couplings between two FS neurons has been tested, where the location, number and strength of these gap junctions have been varied. I studied both the ability of the FS neurons to fire action potentials during the up-state, and the synchronisation between neighbouring FS neurons due to electrical coupling. I found that both proximal and distal gap junctions synchronised the firing, but the distal gap junctions

did not have the same temporal precision. The ability of the FS neurons to detect an up-state was affected by whether the neighbouring FS neuron also received up-state input or not. This effect was more pronounced for distal gap junctions than proximal ones, due to a stronger shunting effect of distal gap junctions when the dendrites were synaptically activated.

We have also performed initial stochastic simulations of the Ca²⁺-calmodulin-dependent protein kinase II (CaMKII). The purpose here is to build the knowledge as well as the tools necessary for biochemical simulations of intracellular processes that are important for plasticity in the MS neurons. The simulated biochemical pathways will then be integrated into an existing model of a full MS neuron. Another venue to explore is to build striatal network models consisting of MS and FS neurons and using experimental data of the striatal microcircuitry. With these different approaches we will improve our understanding of striatal information processing.

<http://www.csc.kth.se/hjorth/lic2006.pdf>
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CSC/A--06/08--SE • ISBN 91-7178-368-7

CVAP INTERNAL SEMINAR SERIES

Elin and I will share the seminar time next week and both present our talks which we will give in Germany the week after. 1 June, 11:00, Room 304

Elin Topp:

Interactive learning of concepts and spatial representations

Simone Frintrop:

Attentional Robot Localization and Mapping

Simone

"nita" (nationellt IT-användarcentrum) inbjuder till seminarium om

"IT-användning och standardisering"

den 7 juni 2006
D1, Lindstedtsvägen 3, KTH

<http://www.nita.uu.se/konf/>

Tyckte att programmet kunde vara intressant för fler...<http://www.nita.uu.se/konf/program.html>

Helge Hüttenrauch

TGIF 16 juni - info kommer i postfacket

Seminar in Numerical Analysis

A Quadratic Eigenproblem in the Analysis of a Time Delay System

Elias Jarlebring, TU Braunschweig

Thursday June 8, 2006 at 13:15 in D4523

Abstract

In this work we solve a quadratic eigenvalue problem occurring in a method to compute the set of delays of a time delay system (TDS) such that the system has an imaginary eigenvalue. The computationally dominating part of the method is to find all eigenvalues z of modulus one of the quadratic eigenvalue problem

$$\left(z^2 A_m \otimes I + z \left(\sum_{k=0}^{m-1} I \otimes A_k e^{-i\varphi_k} + A_k \otimes I e^{i\varphi_k} \right) + I \otimes A_m \right) u = 0,$$

where $\varphi_1, \dots, \varphi_{m-1} \in \mathbb{R}$ are free parameters and u a vectorization of a Hermitian rank one matrix.

Because of its origin in the vectorization of a Lyapunov type matrix equation, the quadratic eigenvalue problem is, even for moderate size problems, of very large size. We show one way to treat this problem by exploiting the Lyapunov type structure of the quadratic eigenvalue problem when constructing an iterative solver. More precisely, we show that the shift-invert operation for the companion form of the quadratic eigenvalue problem can be efficiently computed by solving a Sylvester equation. The usefulness of the Lyapunov exploitation is demonstrated with examples.

Welcome

*Axel Ruhe,
Professor of Numerical Analysis*

NOBELMUSEETS FORSKNINGSAVDELNING
INBJUDER TILL

Den tredje årliga NEALE WHEELER WATSON-
FÖRELÄSNINGEN

UNDERSTANDING REAL EUROPE: A COSMOPOLITAN PERSPECTIVE

ULRICH BECK

Professor i Sociologi vid Ludwig Maximilian-
Universitetet i München

Torsdag 1 juni, Kl 16-18

Börssalen, Källargränd 4, Börshuset, Gamla Stan,

"Europe can become neither a state nor a nation - and it won't. Hence it cannot be thought of in terms of the nation-state. The path to the unification of Europe leads not through uniformity but rather through acknowledgement of its national particularities. Diversity is the very source of Europe's potential creativity. The solution to national problems lies only in European interaction."

För tillfället är fem av Becks böcker i svensk översättning tillgängliga i bokhandeln. Föreläsningen anknäver till den senaste översättningen som utkommer i augusti. Föreläsningen hålls på engelska.

FÖRANMÄLAN:

e-post Bokning@nobel.se, tel 08-534 818 18

VÄLKOMNA!

*Göran Bolin,
Professor of Media & Communication Studies*

TGIF 16 juni - info kommer i postfacket

Exjobb

Exjobbsseminarier

Torsdag den 8/6 kl 14.15 - 15 (ca) presenterar SciComp Masterstudenten Saeed Kamal sitt exjobb i rum 1635.

"Computation of the optimal velocity disturbances of the low Reynolds number flow past a circular cylinder using a stabilized finite element method"

Handledare har varit
Johan Hoofman och Luca Brandt (Mekanik)

Lennart Edsberg

Exjobbsseminarier i MDI

Nästa två exjobbsseminarier i MDI äger rum torsdagen den 1/6 och fredagen den 2/6.

Torsdag 1/6, 10:15 på CID-torget

Emma Tarandi

Köpcentrum på nätet – En användarcentrerad designprocess med syfte att finna möjliga målgrupper samt dessas krav på en webbaserad planeringstjänst för köpcentrumbesök

Program: Medieteknik

Handledare: Sinna Lindquist

Examinator: Yngve Sundblad

Opponent: Henrik Lindström

Jenny Sundén

Lokalanpassning av produkter och tjänster till nya marknader – ett internationellt användbarhetsperspektiv.

Program: Medieteknik

Handledare: Ann Lantz / Per-Anders Forstorp

Examinator: Yngve Sundblad

Opponent: Jonas Moll

Seminarieledare: Yngve Sundblad

Fredag 2/6, 10:15 på CID-torget

Sabina Ahsin

Den interaktiva kiosken – Metodval och designriktlinjer tillämpat på SF Bio:s biljettkiosk.

Program: Medieteknik

Handledare: Sinna Lindquist

Examinator: Yngve Sundblad

Opponent: Philip Asp

Jonas Moll

Utveckling och utvärdering av programvara till stöd för lärande under samarbete mellan seende och synskadade elever i grundskolan.

Program: Datateknik

Handledare: Eva-Lotta Sallnäs

Examinator: Kerstin Severinson-Eklundh

Opponent: Cecilia Tendler

Seminarieledare: Kerstin Severinson-Eklundh

Program (med sammanfattningar) finns på <http://www.nada.kth.se/utbildning/grukth/exjobb/mdi/seminarier2006/aktuellt.html>

Fredrik

Jobs

Nordic-Math-Job number: SE-0708

University: Luleå University of Technology

Department: Department of Mathematics

Position: PhD studentship in Numerical Analysis

Deadline: 7 June 2006

Contacts: Inge Söderkvist, ++46-(0)920 492130,

++46-(0)70 6911327, inge@sm.luth.se

Web-info: <http://www.ltu.se/omltu/d1915/d1917/1.7648>

Nordic-Math-Job number: SE-0709

University: KTH Stockholm

Department: Department of Mathematics

Position: Research Assistant in Mathematics

Deadline: 7 June 2006

Contacts: Svante Linusson, ++46-(0)8-790 94 44,

linusson@math.kth.se

Ari Laptev, ++46-(0)8-790 62 44,

laptev@math.kth.se

Web-info: <http://www.kth.se/aktuellt/tjanster/2/ShowAdd.aspx?ID=62033>

Nordic-Math-Job number: SE-0710

University: Lund University

Department: Mathematics LTH

Position: PhD student in Mathematics

Deadline: 12 June 2006

Contacts: Gunnar Sparr, ++46-(0)46-222 8528,

Gunnar.Sparr@math.lth.se

Web-info: <http://www3.lu.se/info/lediga/admin/document/663.pdf>

Nordic-Math-Job number: IS-2006-04

University: University of Iceland

Departments: Department of Mathematics

Positions: Director of the Statistics Centre

Deadline: 19 June 2006

Contacts: Hermann Þórisson, ++354-525-493, hermann@hi.is

Web-info: <http://www.hi.is/Apps/WebObjects/HI.woa/wa/dp?detail=1006817&name=storf> (Icelandic)

Nordic-Math-Job number: IS-2006-05

University: Reykjavik University <http://www.ru.is/>

Position: Faculty position in financial mathematics

Deadline: 1 July 2006

Contacts: Einar Steingrímsson, ainarst@ru.is

Web-info: <http://www.math.ru.is/finmath.html>

Doktorander till Centrum för Industriell och Tillämpad Matematik (CIAM)

Vid KTH startas nu Centrum för Industriell och Tillämpad Matematik (CIAM). Detta är ett SSF-finansierat strategiskt centrum för matematik med industriell relevans. Inom CIAMs ram utlyses nu upp till fem doktorandtjänster.

Forskningen inom CIAM kommer att bedrivas inom ett brett spektrum. Projekten inom CIAM kommer att vara av hög industriell och tillämpad relevans, och i många fall utföras i samarbete med industriföretag. Se www.math.kth.se/ciam/ för mer information. De antagna doktoranderna kommer att forskarutbildas inom något av ämnena matematik, matematisk statistik, optimeringslära och systemteori, numerisk analys eller datalogi. Ange i ansökan vilket forskarutbildningsämne du i första hand är intresserad av.

Kvalifikation/Behörighet

Lämplig bakgrund för denna befattning är civilingenjörsexamen från teknisk fysik, datateknik, farkostteknik eller annan högskoleexamen med matematisk profil.

Mer info:

<http://www.math.kth.se/ciam/doktorandannons.html>

Ansökan via vanlig postgång adresseras till:

Kungliga Tekniska högskolan

Institutionen för Matematik

Att: Marie Lundin

100 44 Stockholm

Senaste ansökningsdag: 2006-06-14

Arbetsgivarens referensnummer: S-2006-0678

Kontakt

Professor Anders Lindquist, tel: 08-790 73 11, e-post: alq@kth.se.

Professor Anders Forsgren, tel: 08-790 71 27, e-post: andersf@kth.se.

*Mvh,
Anders Forsgren*

Kalendarium 2006 juni - augusti

1 juni 10:15, exjobbsseminarier i MDI

Emma Tarandi: Köpcentrum på nätet – En användarcentrerad designprocess med syfte att finna möjliga målgrupper samt dessas krav på en webbaserad planeringstjänst för köpcentrumbesök

Jenny Sundén: Lokalanpassning av produkter och tjänster till nya marknader – ett internationellt användbarhetsperspektiv. på CID-torget

1 June, 11:00, CVAP INTERNAL SEMINAR SERIES

Elin Topp: Interactive learning of concepts and spatial representations, Simone Frintrop: Attentional Robot Localization and Mapping, Room 304

1 juni, kl. 15-17 Seminarium

GENUS, KÖN OCH SEX. EN KRITISK ANALYS AV HUR VI GÖR DJUR, Måns Andersson, CID-torget,

1 juni, Kl 16-18,

UNDERSTANDING REAL EUROPE: A COSMOPOLITAN PERSPECTIVE, ULRICH BECK, Börssalen, Källargränd 4, Börshuset, Gamla Stan

2 juni at 10.15 Seminar at CBN

Olfactory memory, Maria Larsson, Psychology department, Stockholm university in 4523

2 juni, 10:15 exjobbsseminarier i MDI

Sabina Ahsin: Den interaktiva kiosken – Metodval och designriktlinjer tillämpat på SF Bio:s biljettkiosk.

Jonas Moll: Utveckling och utvärdering av programvara till stöd för lärande under samarbete mellan seende och synskadade elever i grundskolan. på CID-torget

7 juni nita seminarium

"IT-användning och standardisering" nita, nationellt IT-användarcentrum, D1, Lindstedtsvägen 3, KTH

8 Juni, 13:15 TCS-seminarium

Narrow Proofs May Be Spacious: Separating Space and Width in Resolution, Jakob Nordström, Theory Group, KTH CSC, room 1537

8 juni, 2006 at 13:15, Seminar in Numerical Analysis

A Quadratic Eigenproblem in the Analysis of a Time Delay System, Elias Jarlebring, TU Braunschweig in D4523

8 juni kl 14.15 - 15 exjobbspresentation

"Computation of the optimal velocity disturbances of the low Reynolds number flow past a circular cylinder using a stabilized finite element method", Saeed Kamal i rum 1635.

9 juni 10.00 licentiatseminarium

Ulf Blomqvist, Medieteknik och grafisk produktion, KTH , Mediated peer (to peer) learning, Salongen KTHB

12-14 juni Ämneskonferens

i datavetenskap och numerisk analys år 2006 anordnas på "Nada" KTH, Stockholm

14 juni kl. 14.00 Disputation

Language Technology for the Lazy ñ Avoiding Work by Using Statistics and Machine Learning, Jonas Sjöbergh, TCS, KTH i Salongen KTHB

Kalendarium 2006

14 juni 14.00 licentiatseminarium

Johannes Hjort, Datalogi, KTH , Information Processing in the Striatum ñ a Computational Study, E32, Lindstedtsvågen 3

15 juni kl. 10.00 Disputation

Computer-Based Speech Therapy Using Visual Feedback with Focus on Children with Profound Hearing Impairments, Ann-Marie Öster, F2 Lindstedtsvägen 28

15 juni kl. 14.00 Disputation

A Gaming Perspective on Command and Control , Joel Brynielsson, Datalogi, KTH i E3 KTH



TGIF

16 juni kl. 15 till ca. 18
Sommarfest och terminsavslutning
på
KTH CSC

Augusti

14-25 August Introduction to High-Performance Computing, PDC Summer School, Stockholm, Sweden

Seminarieänkar

AlbaNova

<http://www.albanova.se/aktuellt/>

Bråket

<http://www.math.kth.se/braaket.html>

INSTITUT MITTAG-LEFFLER SEMINARS

www.ml.kva.se

KTH Matematik

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KTH – Computational Science and Engineering Centre

<http://www.kcse.kth.se/seminars.html>

Stockholm Bioinformatics Center and Dept Num Analysis and Comp Science

<http://www.sbc.su.se/seminars/>



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KTH Datavetenskap och kommunikation inbjuder till,
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onsdag 7 juni 2006 kl 11.15 - 12
sal E3, Osquarsbacke 14

Robot Visions, Robot Vision Danica Kragic

In 1990, a book called 'Robot visions' was published. The book is a collection of 18 of Isaac Asimov's robot stories. The earliest stories in the book, written from 1940 to 1960, are and remain among the most known ones in the field of science fiction. The story "The Bicentennial Man" published in 1976 tells us about one robot's desires and efforts to be first free and then equal to a human being, with all the rights that follow. So, how close to the fiction are we?

In my talk, I will give a short introduction to the field of robotics mainly concentrating on the areas of robot vision and human machine collaborative systems. Human-machine collaborative systems (HMCSs) are systems that amplify or assist human capabilities during the performance of tasks that require both human judgment and robotic precision. I will talk about the current research and open problems related to the design of HMCSs in the context of service robots and microsurgical procedures such as vitreo-retinal eye surgery.

In 1982, the Toshiba Corporation announced that it had developed and put into operation the world's first vision based robot system, in which the arms and hands of two assembly line robots interacted with each other to duplicate the complex movements of an actual production line worker. The spokesman for the company said that this meant that assembly processes in which workers use their eyes and both hands could be fully automated. But what is a seeing robot? Does it already exist or what are the problems that have to be solved to design one?

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