

# Abstracts

**Para qué sirven los abstracts?**

**Para qué sirve saber escribir  
buenos abstracts?**

**Why  
Who  
What**

**Propósito  
Audiencia  
Contenido**

**When  
Where**

**Restricciones de tiempo  
Restricciones de espacio**

**“Trees, maps and theorems”  
Doumont 2009**

**Motivación**

**Mensaje**

**Detalles**

**Apéndice**

## **Importancia del mensaje:**

Audiencia dispuesta a leer el documento

Aprovechamos su atención para  
comunicar lo más importante

Detalles siguen después  
para quien los quiera leer

**Introducción**

Importante para el lector

**Cuerpo**

Importante para el autor

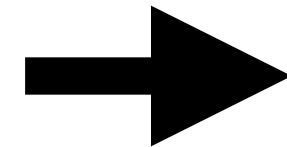
**Conclusiones**

Importante para el lector

**Introducción**

**Cuerpo**

**Conclusiones**



**Prefacio**

**Resumen**

**Cuerpo**

## Prefacio

(Antes del trabajo)

Contexto  
Necesidad  
Tarea  
Objeto

Por qué es importante la necesidad  
Por que era necesario el estudio  
Que hay que hacer para la necesidad  
Que hace este trabajo

## Resumen

(Después del trabajo)

Resultado  
Conclusiones  
Futuro

Lo que se hizo o se encontró  
Qué significa esto para la audiencia  
Qué pasa después del trabajo



**Abstract.** A purely peer-to-peer version of electronic cash would allow online payments to be sent directly from one party to another without going through a financial institution. Digital signatures provide part of the solution, but the main benefits are lost if a trusted third party is still required to prevent double-spending. We propose a solution to the double-spending problem using a peer-to-peer network. The network timestamps transactions by hashing them into an ongoing chain of hash-based proof-of-work, forming a record that cannot be changed without redoing the proof-of-work. The longest chain not only serves as proof of the sequence of events witnessed, but proof that it came from the largest pool of CPU power. As long as a majority of CPU power is controlled by nodes that are not cooperating to attack the network, they'll generate the longest chain and outpace attackers. The network itself requires minimal structure. Messages are broadcast on a best effort basis, and nodes can leave and rejoin the network at will, accepting the longest proof-of-work chain as proof of what happened while they were gone.



## Necesidad

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## Tarea

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## Objeto

**Abstract.** A purely peer-to-peer version of electronic cash would allow online payments to be sent directly from one party to another without going through a financial institution. Digital signatures provide part of the solution, but the main benefits are lost if a trusted third party is still required to prevent double-spending.

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## Resultados

**Abstract.** A purely peer-to-peer version of electronic cash would allow online payments to be sent directly from one party to another without going through a financial institution. Digital signatures provide part of the solution, but the main benefits are lost if a trusted third party is still required to prevent double-spending. We propose a solution to the double-spending problem using a peer-to-peer network.

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Advances in IC processing allow for more microprocessor design options. The increasing gate density and cost of wires in advanced integrated circuit technologies require that we look for new ways to use their capabilities effectively. This paper shows that in advanced technologies it is possible to implement a single-chip multiprocessor in the same area as a wide issue superscalar processor. We find that for applications with little parallelism the performance of the two microarchitectures is comparable. For applications with large amounts of parallelism at both the fine and coarse grained levels, the multiprocessor microarchitecture outperforms the superscalar architecture by a significant margin. Single-chip multiprocessor architectures have the advantage in that they offer localized implementation of a high-clock rate processor for inherently sequential applications and low latency interprocessor communication for parallel applications.



# DIFICULTAD NO ES NECESIDAD

## PROBLEMA CLASICO NO ES NECESIDAD

The problem of tracking curves in dense visual clutter is challenging. Kalman filtering is inadequate because it is based on Gaussian densities which, being unimodal, cannot represent simultaneous alternative hypotheses. The Condensation algorithm uses “factored sampling”, previously applied to the interpretation of static images, in which the probability distribution of possible interpretations is represented by a randomly generated set. Condensation uses learned dynamical models, together with visual observations, to propagate the random set over time. The result is highly robust tracking of agile motion. Notwithstanding the use of stochastic methods, the algorithm runs in near real-time.

Predicting the occurrence of links is a fundamental problem in networks. In the link prediction problem we are given a snapshot of a network and would like to infer which interactions among existing members are likely to occur in the near future or which existing interactions are we missing. Although this problem has been extensively studied, the challenge of how to effectively combine the information from the network structure with rich node and edge attribute data remains largely open.

We develop an algorithm based on *Supervised Random Walks* that naturally combines the information from the network structure with node and edge level attributes. We achieve this by using these attributes to guide a random walk on the graph. We formulate a supervised learning task where the goal is to learn a function that assigns strengths to edges in the network such that a random walker is more likely to visit the nodes to which new links will be created in the future. We develop an efficient training algorithm to directly learn the edge strength estimation function.

Our experiments on the Facebook social graph and large collaboration networks show that our approach outperforms state-of-the-art unsupervised approaches as well as approaches that are based on feature extraction.



## CLASICO: SOLO RESULTADOS

It is shown that any recognition problem solved by a polynomial time-bounded nondeterministic Turing machine can be "reduced" to the problem of determining whether a given propositional formula is a tautology. Here "reduced" means, roughly speaking, that the first problem can be solved deterministically in polynomial time provided an oracle is available for solving the second. From this notion of reducible, polynomial degrees of difficulty are defined, and it is shown that the problem of determining tautologyhood has the same polynomial degree as the problem of determining whether the first of two given graphs is isomorphic to a subgraph of the second. Other examples are discussed. A method of measuring the complexity of proof procedures for the predicate calculus is introduced and discussed.



# MOTIVACION OCULTA

We show how to use “complementary priors” to eliminate the explaining away effects that make inference difficult in densely-connected belief nets that have many hidden layers. Using complementary priors, we derive a fast, greedy algorithm that can learn deep, directed belief networks one layer at a time, provided the top two layers form an undirected associative memory. The fast, greedy algorithm is used to initialize a slower learning procedure that fine-tunes the weights using a contrastive version of the wake-sleep algorithm. After fine-tuning, a network with three hidden layers forms a very good generative model of the joint distribution of handwritten digit images and their labels. This generative model gives better digit classification than the best discriminative learning algorithms. The low-dimensional manifolds on which the digits lie are modelled by long ravines in the free-energy landscape of the top-level associative memory and it is easy to explore these ravines by using the directed connections to display what the associative memory has in mind.



# SOLO MOTIVACIÓN

Future users of large data banks must be protected from having to know how the data is organized in the machine (the internal representation). A prompting service which supplies such information is not a satisfactory solution. Activities of users at terminals and most application programs should remain unaffected when the internal representation of data is changed and even when some aspects of the external representation are changed. Changes in data representation will often be needed as a result of changes in query, update, and report traffic and natural growth in the types of stored information.

**ABSTRACT:** *Humans appear to be able to learn new concepts without needing to be programmed explicitly in any conventional sense. In this paper we regard learning as the phenomenon of knowledge acquisition in the absence of explicit programming. We give a precise methodology for studying this phenomenon from a computational viewpoint. It consists of choosing an appropriate information gathering mechanism, the learning protocol, and exploring the class of concepts that can be learned using it in a reasonable (polynomial) number of steps. Although inherent algorithmic complexity appears to set serious limits to the range of concepts that can be learned, we show that there are some important nontrivial classes of propositional concepts that can be learned in a realistic sense.*