Chapter

Perceive Core Logical Blocks of a C Program Automatically for Source Code Transformations

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Citations (2) References (8)

Abstract

Tool like Flawfinder, used to identify a security flaw in a source code, is too expensive to be procured for usage but it can also be accessed on public cloud as a software as a service. Since there is possibility of inside attackers in cloud service, to unveil the logical possessions out of the source code, there is a need to transform the source code by altering the semantics. In this paper, we have introduced a novel method to identify the core logical blocks of any C source code. It mainly consists of two steps: (i) source code entity identification (ii) dependency identification. The entities are identified based on programming language constructs like variables, simple entities and control structures. Variable dependency is in deep analyzed by generating a dependency graph using Neo4j graph database software. This graph is further traversed and weighted matrix of the variable dependencies is created from which the core logical blocks could be identified. Algorithms are designed for the above two steps. Cyclomatic complexity analysis and Time complexity analysis are carried out and experimentations are conducted to verify the same.

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Source Code Obfuscation: Novel Technique and Implementation

Chapter

Jan 2022

Krishna Yadav · Rutuja Kamble · Sumit Kale · Pallavi Ahire

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Mechanisms for Source Code Obfuscation in C: Novel Techniques and Implementation

Conference Paper

Mar 2020

Pallavi Ahire · Jibi Abraham

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an improved, easy to implement model for multilingual programming language. The proposed algorithm splits the source code into smaller code ... [Show full abstract]

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Resource Scheduling of Cloud with QoS Constraints

July 2013

Yan Wang · Jinkuan Wang · Cuirong Wang · Xin Song

According to the dynamic, distribution and complexity of cloud computing, resource scheduling effectively with users' QoS demand and achieving maximum benefit is the unprecedented challenge. To solve the above problem, we propose to use genetic algorithm: design for the crossover operator and build a cloud resource optimization scheduling model that promised to address user needs while optimizing ... [Show full abstract]

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Computation of Posterior Marginals on Aggregated State Models for Soft Source Decoding

May 2009 · IEEE Transactions on Communications

Simon Malinowski · Hervé Jégou · Christine Guillemot

Optimum soft decoding of sources compressed with variable length codes and quasi-arithmetic codes, transmitted over noisy channels, can be performed on a bit/symbol trellis. However, the number of states of the trellis is a quadratic function of the sequence length leading to a decoding complexity which is not tractable for practical applications. The decoding complexity can be significantly ... [Show full abstract]

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Optimal Models of Disjunctive Logic Programs: Semantics, Complexity, and Computation

May 2004 · IEEE Transactions on Knowledge and Data Engineering

Nicola Leone · Francesco Scarcello · V. S. Subrahmanian

Almost all semantics for logic programs with negation identify a set, SEM(P), of models of program P, as the intended semantics of P, and any model M in this class is considered a possible meaning of P with regard to the semantics the user has in mind. Thus, for example, in the case of stable models [M. Gelfond et al., (1988)], choice models [D. Sacca et al., (1990)], answer sets [M. Gelfond et ... [Show full abstract]

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Secure outsourcing algorithm for signature generation in privacy-preserving public cloud storage aud...

January 2019 · Journal of Information Science and Engineering

Z. Pu · Y. Jia · Z. Hanlin

Public cloud storage auditing allows a file owner or a public verifier to conduct integrity checking without downloading the whole file from cloud server. Plenty of unaffordable modular exponentiations for resource-constraint devices are required on the client side in the process of signature generation for public cloud storage auditing. In this paper, we introduce a secure outsourcing algorithm ... [Show full abstract]

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Cloud Model-Based Multi-objective Estimation of Distribution Algorithm with Preference Order Ranking

September 2013

Ying Gao · Waixi Liu

Estimation of distribution algorithms(EDAs) are a class of evolutionary optimization algorithms. In this paper, EDAs scheme are extended to multi-objective optimization problems by using preference order and cloud model. In the algorithm, three digital characteristics from the current population are firstly estimated by backward cloud generator. Afterwards, forward cloud generator used to ... [Show full abstract]

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Vary: An IDE for designing algorithms and measuring quality

August 2018

Tatiana Person · Iván Ruiz-Rube · Nuria Hurtado · [...] · Juan Manuel Dodero

Pseudocode is one of the recommended methods for teaching students to design algorithms. Having a tool that performs the automatic translation of an algorithm in pseudocode to a programming language would allow the student to understand the complete process of program development. In addition, the introduction of quality measurement of algorithms designed from the first steps of learning ... [Show full abstract]

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A novel resource clustering model to develop an efficient wireless personal cloud environment

April 2019 · Turkish Journal of Electrical Engineering and Computer Sciences

Dr Kowsigan . M · P. Balasubramanie

In the current era, cloud computing is the major focus of distributed computing and it helps in satisfying the requirements of the business world. It provides facilities on demand under all the parameters of the computing, such as infrastructure, platform, and software, across the globe. One of the major challenges in the cloud environment is to cluster the resources and schedule the jobs among ... [Show full abstract]

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Optimized Collaborative Filtering Algorithm Based On Item Rating Prediction

December 2012

Ye Weichuan · Lin Kunhui · Zhang Leilei · Deng Xiang

Collaborative filtering recommendation algorithm is currently the most widely used personalized recommendation algorithm. Sparsity problem of user rating data led to the recommendation quality of traditional collaborative filtering algorithms are far from ideal. To solve the problem, the paper first cloud model and project characteristic attributes to calculate the similarity between the project ... [Show full abstract]

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Article

Platform as a service: Is it time to switch?

July 2012 · Journal of Corporate Accounting & Finance

Kurt Fanning · David P. Centers

Software as a service (SaaS)—or, as it is commonly called, cloud computing—is becoming the current choice for software procurement. With cloud computing, computer services are typically provided to users over the Internet—instead of using software products on one's own PC. Companies are now also looking to switch to a similar service, called platform as a service (PaaS). This article explains ... [Show full abstract]

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