

Division of Computer Science

Language Processing Systems Laboratory



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Taro Suzuki
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Grants

[taro-01:2013] T. Suzuki. Grant-in-Aid for Scientific Research (C), 2011-2013.

Academic Activities

[taro-02:2013] Taro Suzuki, 2011.

member

[taro-03:2013] Taro Suzuki, 2011.

member

[taro-04:2013] Taro Suzuki, 2011.

member

Ph.D and Others Theses

[taro-05:2013] Takahiro Aoki. Implementation of a Card Game with FreeGame in Haskell, University of Aizu, 2014.

Thesis Advisor: T. Suzuki

[taro-06:2013] Hajime Ito. Algorithmic Composition in Haskell, University of Aizu, 2014.

Thesis Advisor: T. Suzuki

[taro-07:2013] Masayuki Yoshita. Graphical Hardware Design Tool based on Arrows in Haskell, University of Aizu, 2014.

Thesis Advisor: T. Suzuki

[taro-08:2013] Toshihiro Tamura. Improvement of Visual Programming System for Haskell Programs with Arrows, University of Aizu, 2014.

Thesis Advisor: T. Suzuki

Others

Summary of Achievement

[taro-09:2013] Satoshi Okui and Taro Suzuki. Disambiguation in Regular Expression Matching via Position Automata with Augmented Transitions. Technical Report of University of Aizu, No.: 2013-002, 2013.

This paper offers a new efficient regular expression matching algorithm which follows the leftmost-longest rule specified in POSIX 1003.2 standard. The algorithm basically emulates the subset construction without backtracking, so that its computational cost even in the worst case does not explode exponentially; the time complexity of the algorithm is $O(m(n^2 + c))$, where m is the length of a given input string, n the number of occurrences of the most frequently used letters in a given regular expression and c the number of subexpressions to be used for capturing substrings plus the number of repetition operators. The correctness of the algorithm is given with respect to a formalization of the leftmost-longest semantics by means of a priority order on parse trees.