External Awards

Best Presentation Award
Winners: Kevin Duh and Ching-man Au Yeung, NTT Communication Science Laboratories
Date: Feb. 25, 2011
Organization: 12th International Conference on Intelligent Text Processing and Computational Linguistics

For "Providing Cross-Lingual Editing Assistance to Wikipedia Editors".

The 26th TELECOM System Technology Award
Winners: Hiroyuki Funakoshi and Tatsuya Matsukawa, NTT Service Integration Laboratories
Date: Mar. 22, 2011
Organization: The Telecommunications Advancement Foundation

For "A Failure Rate Estimation Considering the Change in the Number of Equipment".
Published in: IEICE Trans. on Commun., Vol. J93-B, No. 4, pp. 681–692, Apr. 2010.

For "A Simple Estimation Method of Network Reliability with Failure Scale".
Published in: IEICE Trans. on Commun., Vol. J88-B, No. 8, pp. 1444–1453, Aug. 2005.

For "Analyzing Failure Frequency and Severity in Communication Networks".
Published in: Proc. of the 56th Annual Reliability and Maintainability Symposium (RAMS 2010), Jan. 2010.

For "Unavailability Evaluation Method for Communication Network Management".
Published in: Proc. of the 55th Annual Reliability and Maintainability Symposium (RAMS 2009), Jan. 2009.

Papers Published in Technical Journals and Conference Proceedings

Simultaneous Enlargement of SRAM Read/Write Noise Margin by Controlling Virtual Ground Lines
H. Makino, T. Kusumoto, S. Nakata, S. Mutoh, M. Miyama, T. Yoshimura, S. Iwade, and Y. Matsuda

Proc. of NEWCAS 2010, the 8th IEEE International Conference, p. 73, Montreal, Quebec, Canada.

The SRAM operating margin in 65-nm technology is analyzed. The peak characteristic in the read margin versus supply voltage was found to be caused by the channel length modulation effect. Controlling the memory cell virtual ground line proved to be effective in enlarging the operating margin simultaneously in the read and write operations. A simple optimum circuit that does not require any dynamic voltage control and achieves an operating margin comparable to conventional circuits that do require dynamic voltage control is proposed.

Efficient Data Selection for Spoken Document Retrieval Based on Prior Confidence Estimation Using Speech and Context Independent Models
S. Kobashikawa, T. Asami, Y. Yamaguchi, H. Masataki, and S. Takahashi

Proc. of Spoken Language Technology Workshop (SLT), 2010, IEEE, pp. 200–205, Berkeley, CA, USA.

This paper proposes an efficient speech sample selection technique that can identify those samples that will be well recognized. Conventional confidence measures can identify well-recognized speech samples, but they require speech recognition to estimate confidence scores. Low-confidence speech samples should not undergo recognition since they yield speech documents that will eventually be rejected. The proposed technique can select the samples that will justify the application of speech recognition. It is based on rapid prior confidence estimation by using speech and context independent models to calculate acoustic likelihood values on a frame-by-frame basis. Tests show that the proposed confidence estimation technique is over 50 times faster than the conventional posterior confidence measure while maintaining equivalent data selection performance for speech recognition and spoken document retrieval.

Fault Recovery Performance Analysis of Functionally Distributed Transport Networking System
K. Ogawa, K. Higuchi, and S. Chaki

Intelligent Networking, Collaborative Systems and Applications (INCOSA), Springer, Vol. 329, pp. 281–295, 2011.

We propose a fault recovery method in functionally distributed transport networking that separates the control-plane processing part (control element (CE)) from the forwarding-plane processing part

(forwarding element (FE)) of the router. In this architecture, one path-control process in the CE consolidates and processes the path computations and the path settings for multiple FEs. This leads to a reduction in path-control complexity and efficient operation of large-scale networks. On the other hand, it is absolutely critical to ensure the high reliability of the CE. We analyze the performance of the proposed fault recovery method by using a software implementation.