

MEDIA RELEASE

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I²R and NUS triumph with winning formula at DIBCO 2009

- *Duo beats thirty-five other international teams to secure the top spot*

Singapore, 26 August 2009 – Ever wished for your Optical Character Recognition (OCR) software to capture a document you had just scanned more accurately? Tired of having to proofread what you had just scanned to make sure that the text matched your hard copy? Well, your wish may have just come true sooner than you think!

Dr Lu Shijian from A*STAR Institute for Infocomm Research (I²R) and Professor Tan Chew Lim from National University of Singapore's School of Computing have beaten thirty-five other competitors to clinch the first place in the 2009 Document Image Binarization Contest (DIBCO 2009) organised by National Center for Scientific Research "Demokritos", in Athens, Greece. DIBCO 2009 was held in conjunction with the 10th International Conference on Document Analysis and Recognition (ICDAR 2009) in Barcelona, Spain, in July 2009, an important international forum for the document analysis research community.

The pair's submission demonstrated clear strengths among thirty-five research groups from all over the world including reputable research organisations from Europe, US, Australia and Asia, that had participated in the competition with forty-three different algorithms (several participants submitted more than one algorithm). Eventually, the best detection performance was achieved by *Algorithm 26* that was submitted by Dr Lu

S. of I²R and Professor Tan C.L. of NUS School of Computing from Singapore.

The general objective of DIBCO 2009 is to identify current advances in document image binarization using established evaluation performance measures. Document image binarization, a technology often used in OCR software used to drive scanning software is an important element in making document image analysis and recognition possible.

The DIBCO testing dataset consists of five machine printed and five handwritten images resulting in a total of 10 images for which the associated human-segmented (text) images were built for the evaluation. These are document images where the text is manually segmented by human being (instead of computers). The human-segmented images act as the benchmark to evaluate the accuracy of the designed computer algorithms.

The selection of the images in the dataset was made so that it contains representative degradations as in the real world that appears frequently (e.g. variable background intensity, shadows, smear, smudge, low contrast, bleed-through and show-through).

Professor Lye Kin Mun, Deputy Executive Director (Research) said, *"Congratulations are in order for Lu Shijian and the team from our Computer Vision & Image Understanding research department for this achievement. We have continued to demonstrate that our in-house developed technologies are able to compete with best of the best in the global arena on real world challenges. I view this achievement as well deserved recognition from fellow researchers over the world for the team at I²R."*

Professor Ooi Beng Chin, Dean of NUS School of Computing (SoC) said, "SoC is glad to share the sense of achievement chalked up by our colleague, Professor Tan Chew Lim at DIBCO. The win at the international event is testament to the cutting-edge research that Prof Tan has been performing in the area of image and text recognition. Our School celebrates with Prof Tan his pursuit of excellence."

Additional information on this year's DIBCO is available at <http://www.iit.demokritos.gr/~bgat/DIBCO2009/benchmark>. More on ICDAR may be found at: <http://www.cvc.uab.es/icdar2009/>

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Background

About Institute for Infocomm Research

The Institute for Infocomm Research (I²R - pronounced as i-squared-r) is a member of the Agency for Science, Technology and Research (A*STAR) family. Established in 2002, our mission is to be the globally preferred source of innovations in 'Interactive Secured Information, Content and Services Anytime Anywhere' through research by passionate people dedicated to Singapore's economic success.

I²R performs R&D in information, communications and media (ICM) technologies to develop holistic solutions across the ICM value chain. Our research capabilities are in information technology, wireless and optical communication networks, interactive and digital media; signal processing and computing. We seek to be the infocomm and media value creator that keeps Singapore ahead. Website: www.i2r.a-star.edu.sg

About NUS

A leading global university centred in Asia, the National University of Singapore (NUS) is Singapore's flagship university which offers a global approach to education and research, with a focus on Asian perspectives and expertise.

NUS has 14 faculties and schools across three campus locations in Singapore – Kent Ridge, Bukit Timah and Outram. Its transformative education includes a broad-based curriculum underscored by multi-disciplinary courses and cross-faculty enrichment, as well as special programmes which allow students to realise their potential.

The learning experience is complemented by a vibrant residential life with avenues for artistic, cultural and sporting pursuits. Over 30,000 students from 100 countries further enrich the community with their diverse social and cultural perspectives.

NUS shares a close affiliation with three Research Centres of Excellence, 21 university-level, 16 national-level and more than 80 faculty-based research

institutes and centres. Research activities are strategic and robust, and NUS is well-known for its research strengths in engineering, life sciences and biomedicine, social sciences and natural sciences. It also strives to create a supportive and innovative environment to promote creative enterprise within its community.