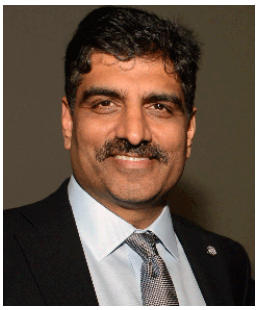
October 25, Venu Govindaraju, Handwriting Recognition: A Perspective on Two Decades of Innovations



We present an overview of two decades of innovation in handwriting recognition at the Govindaraju lab at the University at Buffalo and offer a perspective on the evolution of research in this area and the future of the field. We highlight our seminal work in handwriting recognition that was at the core of the first handwritten address interpretation system used by the U.S. Postal Service, described as one of the first practical success stories of AI (Daphne Koller, Stanford, at the CCC symposium on Computing Research that changed the World) and as a shining example of AI for the Social Good (Eric Horvitz, Microsoft Research). We journey through the HWR landscape, from lexicon-based to lexicon-free approaches, and from heuristics-driven techniques to the principled methodologies that we introduced. We explore a sample of the variety of impactful applications that resulted from our research, from the processing of healthcare forms for the NYS Department of Health for deriving early indicators of outbreaks, to access to historical documents through word spotting, transcript mapping and other indexing schemes for digital libraries, to award-winning pre-processing techniques and multilingual OCR solutions for automated machine translation for armed forces in the theater. We introduce the novel concept of accents in handwriting and our pioneering use of handwritten CAPTCHAs to enhance security. We end with a look at some of the challenging problems that we are working on in the digital humanities space and new ideas to explore such as the potential use of whiteboard recognition technologies in the flipped classroom setting.

Session details...

BIO:

Dr. Venu Govindaraju, University at Buffalo Vice President for Research and Economic Development and SUNY Distinguished Professor of Computer Science and Engineering, is founding director of the Center for Unified Biometrics and Sensors. His research focuses on machine learning and pattern recognition primarily in Document Image Analysis and Biometrics. His pioneering work in handwriting recognition was at the core of the first handwritten address interpretation system used by the U.S. Postal Service as well as postal services in Australia and the UK. An extraordinary researcher, he has been a Principal or Co-Investigator of sponsored projects funded for nearly 65 million dollars.

He has published widely, coauthoring about 425 refereed papers. He has served on numerous professional and editorial boards, including IEEE Transactions (Pattern Analysis and Machine Intelligence; Information and Forensics Security) and as editor-in-chief of the IEEE Biometrics Councils Compendium. Dr. Govindaraju is a Fellow of the ACM (Association for Computing Machinery), the IEEE (Institute of Electrical and Electronics Engineers), the AAAS (American Association for the Advancement of Science), the IAPR (International Association of Pattern Recognition) and the SPIE (International Society of Optics and Photonics).

He received the 2001 International Conference on Document Analysis and Recognition Young Investigator award, the 2004 MIT Global Indus Technovator Award, the 2010 IEEE Technical Achievement Award and the Indian Institute of Technology (IIT) Distinguished Alumnus Award (2014). Recently, Dr. Govindaraju received the 2015 IAPR/ICDAR Outstanding Achievements Award and was named a Fellow of the National Academy of Inventors. He also has supervised the dissertations of 36 doctoral students. In Dec. 2016, he received UB's Excellence in Graduate Student Mentoring Award, recognition of his great efforts in nurturing the next generation of scientists.

SUMMARY:

Topic: Handwriting Recognition: A Perspective on Two Decades of Innovations

Speaker: Venu Govindaraju, Ph.D., University of Buffalo

Date: Wednesday, October 25, 2017

Time: 11 AM – 12 PM ET

Room: 2W908

You are invited to listen to Dr. Govindaraju's presentation in the NCI Shady Grove Building on Medical Center Drive or via WebEx. **Dr. Govindaraju will give his presentation remotely via WebEx.**

Presentation: A screen cast of the presentation will be available for viewing after the event on the NCI CBIIT Speaker Series YouTube Playlist

About the NCI CBIIT Speaker Series:

The National Cancer Institute (NCI) Center for Biomedical Informatics and Information Technology (CBIIT) Speaker Series presents talks from innovators in the research and informatics communities. The biweekly presentations allow thought leaders to share their work and discuss trends across a diverse set of domains and interests. The goals of the Speaker Series are: to share leading edge research; to inform the community of new tools, trends, and ideas; to inspire innovation; and to provide a forum from which new collaborations can begin. For additional information, including past speaker series presentations, visit the CBIIT Speaker Series page.

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