DING-YUN CHEN 陳鼎勻 +886-929-253-288; dynamic@cmlab.csie.ntu.edu.tw
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Biographical Sketch

- Ding-Yun Chen received his B.S. degree in Information and Computer Engineering from Chung Yuan Christian University in 1997. He received his M.S. and Ph.D. degree in Computer Science and Information Engineering from National Taiwan University in 1999 and 2003, respectively. He did his M.S. research on panoramic image system and received the first prize of Dragon Thesis Award in 1999. He did the research on image/audio watermarking from 2000-2001. His doctoral research focused on content-based 3D model retrieval, and also published a 3D model search engine on Internet to query 3D shapes from 2D drawings, text or a retrieved 3D model in 2003. The search engine is one of the best 3D model retrieval systems around the world. Then, he worked at Realtek Semiconductor Corp. for four years Reserve Duty Officer of Mandatory Military Service from 2003-2007. He did the research on digital halftoning using Wang Tiles in 2004 and got the patent in 2007. From 2004-2008, he worked on video/image coding and processing firmware/software in an embedded real-time system for a System-On-Chip MPEG project.
- Ding-Yun Chen's interests span a number of areas in computer graphics and multimedia, including 3D Model Retrieval, Panorama/Street View, Virtual Reality, Video and Image Analysis/Coding/Processing, Multimedia Watermarking, Embedded Real-Time System, etc.

Education

- Ph.D. (1999,9-2003,6), Computer Science and Information Engineering, National Taiwan University
  Title: *Three-Dimensional Model Shape Description and Retrieval Based on LightField Descriptors*
- M.S. (1997,9-1999,6), Computer Science and Information Engineering, National Taiwan University
  Title: *VideoVR: A Real-Time System for Automatically Constructing Panoramic Images from Video Clips*
- B.S. (1993,9-1997,6), Information and Computer Engineering, Chung Yuan Christian University

Experience

- Project associate manager (2008,2-now), video firmware of MPEG project in Realtek Semiconductor Corp.
  - System design engineer (2003,10-2006,7) and senior engineer (2006,8-2008,1) in Realtek for Reserve Duty Officer 國防訓儲役 (2003,10-2007,10)
  - To co-work with IC designer for hardware/software partition, C model, RTL simulation, verification, profiling, bring up, bit perfect and workaround
  - To co-work with application designer for API design, integration, debugging and memory management
  - Task design for both real-time and non-real-time tasks in embedded real-time system
  - MPEG-1, 2, 4, Motion JPEG, RealVideo decoder support
  - HD JPEG, BMP, TIFF, GIF, PNG, DNG. Streaming, decoding, optimization, error handling, scaling, filtering, rotation, cropping, color format conversion, quality improvement and various transition effects
  - Video/Image processing, such as animated OSD, video/subtitle mixer, de-blocking, etc.
- A 3D model search engine (2003,1), to query 3D shapes from 2D drawings, text or a retrieved 3D model on Internet, is one of the best 3D model retrieval systems around the world (http://3d.csie.ntu.edu.tw)
- Adjunct lecturer (2001,8-2002,1), Dept. of Information Management, Shih Chien University
- Lecturer (2000,6-2000,12), Yen Tjing Ling Industrial Research Institute, National Taiwan University
- Adjunct lecturer (1999,8-2000,7), Dept. of CSIE, National Chi Nan University
- Paper reviewer for IEEE Trans. on Signal Processing(2003), IEEE Signal Processing Letters(2003,2004), Eurographics(2005), Computers & Graphics(2006), International Journal of Image and Graphics(2006), EURASIP Journal on Applied Signal Processing(2006), IEEE Trans. on Information Forensics and Security(2006,2008), Computer-Aided Design(2008)

Reference

- Ph.D. and M.S. Advisor: Ming Ouhyoung 歐陽明, ming@csie.ntu.edu.tw, +886-2-2362-5336~421, Deputy Dean, College of Electrical Engineering and Computer Science, NTU
- Current Supervisor: Song Jin 金松, song.jin@realcomtec.com, +1-408-943-6662~168, Video Group Leader of MPEG Project in RealcomTec Inc., a subsidiary of the Realtek group in San Jose, USA

PUBLICATION LIST

Journal

- Jeng-Sheng Yeh, Ding-Yun Chen, Bing-Yu Chen and Ming Ouhyoung, “A Web-Based Three-Dimensional Protein Retrieval System by Matching Visual Similarity”, *Bioinformatics*, Vol. 21, No. 13, pp. 3056-3057, July, 2005. (SCI)
- Ding-Yun Chen, Xiao-Pei Tian, Yu-Te Shen and Ming Ouhyoung, “On Visual Similarity Based 3D Model Retrieval”, *Computer Graphics Forum* (*Eurographics’03*), Vol. 22, No. 3, pp. 223-232, Sept. 2003. (SCI, Google Scholar: cited by 161 until May 2008)
- Ding-Yun Chen, Ming Ouhyoung, and Ja-Ling Wu, “A Shift-Resisting Public Watermark System for Protecting Image Processing Software”, *IEEE Transactions on Consumer Electronics*, Vol. 46, No. 3, pp. 404-414, Aug. 2000. (SCI)
- Ding-Yun Chen, Murphy Chien-Chang Ho and Ming Ouhyoung, “VideoVR: A Real-Time System for Automatically Constructing Panoramic Images from Video Clips”, *Lecture Notes in Artificial Intelligence* (*Captech’98*), Vol. 1537, pp.140-143, 1998. (SCI)

Conference

- Ding-Yun Chen, Xiao-Pei Tian, Yu-Te Shen and Ming Ouhyoung, “On Visual Similarity Based 3D Model Retrieval”, EUROGRAPHICS, Granada, Spain, Sept. 2003.
- Yu-Te Shen, Ding-Yun Chen, Xiao-Pei Tian and Ming Ouhyoung, “3D Model Search Engine Based on LightField Descriptors”, EUROGRAPHICS Interactive Demos, Granada, Spain, Sept. 2003.
- Ding-Yun Chen and Ming Ouhyoung, “A 3D Model Alignment and Retrieval System”, Proc. of International Computer Symposium, Workshop on Multimedia Technologies, Vol.2, pp.436-1443, Hualien, Taiwan, Dec. 2002.
- Ding-Yun Chen and Ming Ouhyoung, “A 3D Object Retrieval System Based on Multi-Resolution Reeb Graph”, Proc. of Computer Graphics Workshop, pp.16, Tainan, Taiwan, June 2002.
- Chun-Hsiang Huang, Ja-Ling Wu and Ding-Yun Chen, “A Blind Watermarking Algorithm with Semantic Meaningful Watermarks”, Proc. of IEEE 34th Asilomar Conference on Signals, Systems, and Computers, Vol. 2, pp. 1827-1830, Pacific Grove, Oct. 2000.
- Ding-Yun Chen, Chun-Hsiang Huang, Ja-Ling Wu and Ming Ouhyoung, “A Shift-Resisting Blind Watermark System for Panoramic Images”, Proc. of IEEE International Conference on Consumer Electronics (ICCE 2000), pp. 8-9, LA, USA, June 2000.
- Ding-Yun Chen, Murphy Chien-Chang Ho and Ming Ouhyoung, “VideoVR: A Real-Time System for Automatically Constructing Panoramic Images from Video Clips”, CAPTECH, Geneva, Switzland, Nov. 1998.
- Zheng-Yun Zhuang, Chiou-Ting Hsu, Herng-Yow Chen, Ding-Yun Chen, Ming Ouhyoung and Ja-Ling Wu, “Multiresolution Scene Change Detection”, Workshop on Consumer Electronics: Digital Video and Multimedia, B4-4/pp. 18-23, Taipei, Taiwan, Oct. 1997.

Patent

- Ding-Yun Chen, "Halftoning Method and Related Apparatus Using the Tiling Rule of Wang Tiles", Taiwan Patent, No. I271999, Jan. 2007.
- Ding-Yun Chen, "Dithering Method and Related Apparatus Using Aperiodic Tiling Rule", United States Patent Application, 20050275899, Dec. 2005.

Technical Report

- Ding-Yun Chen and Ming Ouhyoung, “A 3D Model Alignment and Retrieval System”, Technical Report NTUCSIE 02-02, Dept. of CSIE, National Taiwan University, Taipei, Taiwan, Sept. 2002.
- Ding-Yun Chen, Ming Ouhyoung and Ja-Ling Wu, “Public Audio Watermark”, Technical Report NTUCSIE 01-02, Dept. of CSIE, National Taiwan University, Taipei, Taiwan, Mar. 2001.

Honor

- First Prize, Dragon Thesis Award 1999. Most outstanding academic research, Presented by Acer Foundation. On the topic: VideoVR. 第十三屆 龍騰論文獎 資訊科技類 金質獎