

Ting Yu

WORK ADDRESS

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HOME ADDRESS

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INTERESTS

- Computer Vision, Visual Tracking, Object Detection, Intelligent Video Surveillance, Action Recognition, Vision-based HCI
- Image/Video Processing, Modeling, Analysis and Mining, Multimedia Mining
- Machine Learning, Graphical Models, Structure Learning
- Computer Graphics, Texture Synthesis, Video Texture, Image Based Modeling and Rendering, Animation

EDUCATION

Northwestern University, Evanston, IL	09/2002 ~ present
Ph.D. candidate in Electrical & Computer Engineering	
Advisor: Professor Ying Wu	
Tsinghua University, Beijing, China	09/2000 ~ 07/2002
M.S. in Department of Automation	
Advisor: Professor Yupin Luo	
Tsinghua University, Beijing, China	09/1996 ~ 07/2000
B.S. in Department of Automation	

RESEARCH EXPERIENCE

Northwestern University, Evanston, IL	09/2002 ~ present
Research Assistant, Advisor: Professor Ying Wu	
<i>Robust Visual Tracking and Detection Projects</i>	
• Surveyed on video data modeling, analysis and mining, video event detection and human action recognition using Graphical Models	
• Proposed and implemented a novel collaborative approach with linear complexity to the coalescence problem for visual tracking of multiple targets	
• Proposed and implemented a new statistical algorithm based on mean field Boltzmann model for detecting and tracking deformable objects such as pedestrians	
• Proposed and implemented an appearance-based tracking algorithm to robustly track multiple targets against occlusion	
• Implemented a new approach for visual tracking of articulated objects based on dynamic Markov Network	
• Implemented a switching observation models for contour tracking in clutter	
<i>Computer Graphics Projects</i>	
• Surveyed on dynamic texture modeling and synthesis	
• Implemented a texture synthesis and texture video inpainting demo system based on image quilting algorithm	
Tsinghua University, Beijing, China	12/1999 ~ 07/2002
Research Assistant, Advisor: Professor Yupin Luo	
• Proposed a facial feature extraction algorithm based on statistical model of active contour	

	- Proposed an object contour extraction algorithm in an industry-cooperated intelligent embroidery software system - Implemented a form document recognition algorithm in an industry-cooperated optical character recognition (OCR) system - Implemented a specific character segmentation module in an industry-cooperated optical character recognition (OCR) system
INDUSTRIAL EXPERIENCE	Vanlink Communication Ltd, Beijing, China 06/1999 ~ 09/1999 Designed and Implemented IPX Service Advertising Protocol (SAP) embedded into a LAN router
TEACHING EXPERIENCE	Northwestern University, Evanston, IL Teaching Assistant Course Title: EA1 Engineering Analysis I 09/2003 ~ 12/2003 Course Title: ECE332 Digital Image Analysis 12/2003 ~ 03/2004
PUBLICATIONS	Ting Yu, Ying Wu, "Collaborative Tracking of Multiple Targets", in <i>Proc. IEEE Conf. on Computer Vision and Pattern Recognition (CVPR'04)</i>, Washington, DC, June, 2004. (Accepted to appear) - Ying Wu, Gang Hua and Ting Yu, "Tracking Articulated Body by Dynamic Markov Network", in <i>Proc. IEEE Conf. on Computer Vision (ICCV'03)</i>, pp.1094-1101, Nice, France, Oct., 2003. - Ying Wu, Ting Yu and Gang Hua, "Tracking Appearances with Occlusions", in <i>Proc. IEEE Conf. on Computer Vision and Pattern Recognition (CVPR'03)</i>, Vol I, pp.789-795, Madison, WI, June, 2003. - Ying Wu, Gang Hua and Ting Yu, "Switching Observation Models for Contour Tracking in Clutter", in <i>Proc. IEEE Conf. on Computer Vision and Pattern Recognition (CVPR'03)</i>, Vol I, pp.295-302, Madison, WI, June, 2003. Ting Yu, "Shape Extraction of Specific Object in Image", <i>Master Degree Thesis</i>, Tsinghua University, 2002. (In Chinese) Ting Yu, Yupin Luo, "Active Shape Model for Facial Feature Extraction using Dynamic Programming Search Strategy", in <i>Proc. WSEAS the 2nd Int'l Conf. on Signal, Speech and Image Processing (ICOSSIP'02)</i>, pp.423-426, Skiathos, Greece, 2002. Ting Yu, Yupin Luo, "A Novel Method of Contour Extraction based on Dynamic Programming", in <i>Proc. IEEE the 6th Int'l Conf. on Signal Processing (ICSP'02)</i>, pp.817-820, Beijing, China, 2002. Ting Yu, "Research on Slope Correction and Recognition of Form Document in OCR System", <i>Bachelor Degree Thesis</i>, Tsinghua University, 2000. (In Chinese)
HONORS	- IEEE CVPR'03 student travel grant award, IEEE Computer Society, 2003 - Walter P. Murphy Fellowship, Northwestern University, 2002 - Motorola Graduate Scholarship, Tsinghua University, 2001 - Admission into Graduate School of Tsinghua University exempted from National Graduate Record Exams, 2000 - Excellent Academic Scholarship, Tsinghua University, 1999 - Excellent Academic Scholarship, Tsinghua University, 1997 - Admission into Tsinghua University exempted from National College Entrance Exams, 1996
SKILLS	Proficiency in C/C++, Matlab, OpenCV, DirectX, OpenGL, VisSDK
REFERENCE	Prof. Ying Wu, ECE Dept. Northwestern University, Evanston, IL yingwu@ece.northwestern.edu, (847)-491-2901