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Current Position

Professor and Head, Department of Information and Communication Technologies, Asian Institute of Technology, Thailand. Director, AIT Artificial Intelligence Center.

Research Interests

Machine learning and computer vision, especially applied to robotics and video analytics; systems security; software engineering.

Education

University of California, San Diego
Ph.D., Computer Science and Cognitive Science, 2002.
Thesis: Computational models of high-level visual perception and recognition.

North Carolina State University
M.S., Computer Science, 1995; B.S., Computer Science, 1992.
Thesis: Intelligent interfaces and complex analysis tasks: A knowledge-based interface for biological sequence analysis.

Honors, Awards, Grants

Best Paper Award, International Conference on Future Internet of Things and Cloud (Fi-Cloud) 2014
Best Reviewer Award, MIWAI 2009
Royal Thai Government Joint Research Grant, 2009–2010
Royal Thai Government Joint Research Grant, 2007–2008
Thailand Research Fund post-doctoral research grant, 2004–2006
Top-10 most-downloaded article in *Neural Networks* for 2003
Powell Fellowship, UCSD, 2001
ARCS Fellowship, UCSD, 1999
Computer Science Teaching Excellence Award, UCSD, 1998
Powell Fellowship, UCSD, 1996
Graduated Magna Cum Laude, NC State University
Upsilon Pi Epsilon Computer Science Honor Society, NC State University

Birthdate

October 28, 1969

Nationality

Citizen of the United States

Journal Publications

Muhammad, S., Dailey, M.N., Farooq, M., Majeed, M.F., and Ekpanyapong, M. (2020), Spec-Net and Spec-CGAN: Deep learning models for specularity removal from faces. *Image and Vision Computing*, 93: 103823.

Ranawaka, P., Ekpanyapong, M., Tavares, A., Dailey, M.N., Athikulwongse, K., and Silva, V. (2019), High performance application specific stream architecture for hardware acceleration of HOG-SVM on FPGA. *IEICE Transations on Fundamentals of Electronics, Communications and Computer Science*, E102A(12), pp. 1792–1803.

Kongsilp, S., and Dailey, M.N. (2017), Motion parallax from head movement enhances stereoscopic displays by improving presence and decreasing visual fatigue. *Displays*, 49: 72–79.

Majeed, M.F., Dailey, M.N., Khan, R., and Tunpan, A. (2017), Pre-caching: A proactive scheme for caching video traffic in named data mesh networks. *Journal of Network and Computer Applications*, 87: 116–130.

Majeed, M.F., Ahmed, S.H., and Dailey, M.N. (2017), Enabling push-based critical data forwarding in vehicular named data networks. *IEEE Communications Letters*, 21(4): 873–876.

Qureshi, W.S., Payne, A., Walsh, K.B., Linker, R., Cohen, O., and Dailey, M.N. (2017), Machine vision for counting fruit on mango tree canopies. *Precision Agriculture*, 18(2): 224–244.

Iqbal, W., Dailey, M.N., and Carrera, D. (2016), Unsupervised learning of dynamic resource provisioning policies for cloud-hosted multi-tier Web applications, *IEEE Systems Journal*, 10(4): 1435–1446.

Sitthi, A., Nagai, M., Dailey, M., Ninsawat, S. (2016), Exploring land use and land cover of geotagged social-sensing images using naive Bayes classifier. *Sustainability*, 8(9): article no. 921.

Qureshi, W.S., Ekpanyapong, M., Dailey, M.N., Rinsurongkawong, S., Malenichev, A., and Krasotkina, O. (2015), QuickBlaze: Early fire detection using a combined video processing approach. Fire Technology, 52(5): 1293–1317.

Basit, A., Dailey, M.N., Moonrinta, J., and Laksanacharoen, P. (2015), Joint localization and target tracking with a monocular camera. *Robotics and Autonomous Systems*, 74: 1–14.

Basit, A., Qureshi, W.S., Dailey, M.N., and Krajnik, T. (2015), Joint localization of pursuit quadcopters and target using monocular cues. *Journal of Intelligent and Robotic Systems*, 78(3–4): 613–630.

Noor, W., Dailey, M.N., and Haddawy, P. (2014), Learning predictive choice models for decision optimization. *IEEE Transactions on Knowledge and Data Engineering*, 26(8): 1932–1935.

Journal Publications (cont.)

Chaivivatrakul, S. and Dailey, M.N. (2014), Texture-based fruit detection. *Precision Agriculture*, 15(6): 662–883.

Chaivivatrakul, S., Tang, L., Dailey, M.N., and Nakarmi, A.D. (2014), Automatic morphological trait characterization for corn plants via 3D holographic reconstruction. *Computers and Electronics in Agriculture*, 109: 109–123.

Mak, C.W., Afzulpurkar, N.V., Dailey, M.N., and Saram, P.B. (2014), A Bayesian Approach to Automated Optical Inspection for Solder Jet Ball Joint Defects in the Head Gimbal Assembly Process. *IEEE Transactions on Automation Science and Engineering*, 11(4): 1155–1162.

Baber, J., Dailey, M.N., Satoh, S., Afzulpurkar, N.V, and Bakhtyar, M. (2014), BIG-OH: Binarization of gradient orientation histograms. *Image and Vision Computing*, 32(11): 940–953.

Teeravech, K., Nagai, M., Honda, K., and Dailey, M.N. (2014), Discovering repetitive patterns in facade images using a RANSAC-style algorithm. *ISPRS Journal of Photogrammetry and Remote Sensing* 92: 38–53.

Bukhari, F., and Dailey, M.N. (2013), Automatic radial distortion estimation from a single image. *Journal of Mathematical Imaging and Vision*, 45(1): 31–45.

Nakaguro, Y., Dailey, M.N., Marukatat, S., and Makhanov, S. (2013), Defeating line-noise CAPTCHAs with multiple quadratic snakes. *Computers and Security*, 37: 91–110.

Ouivirach, K., Gharti, S., and Dailey, M.N. (2013), Incremental behavior modeling and suspicious activity detection. *Pattern Recognition*, 46(3): 671–680.

Chatkaewmanee, P. and Dailey, M.N. (2013), Object virtual viewing using adaptive tri-view morphing. *IET Image Processing*, 7(6): 586–595.

Ali, I. and Dailey, M.N. (2012), Multiple human tracking in high-density crowds. *Image and Vision Computing*, 30(12): 966-977.

Nakaguro, Y., Makhanov, S., and Dailey, M.N. (2011), Numerical experiments with cooperating multiple quadratic snakes for road extraction. *International Journal of Geographical Information Science*, 25(5): 765–783.

Iqbal, W., Dailey, M.N., Carrera, D., and Janecek, P. (2011), Adaptive resource provisioning for read intensive multi-tier applications in the cloud. *Future Generation Computer Systems*, 27(6): 871–879.

Rhienmora, P., Haddawy, P., Suebnukarn, S., and Dailey, M.N. (2011), Intelligent Dental Training Simulator with Objective Skill Assessment and Feedback. *Artificial Intelligence in Medicine*, 52(2): 115–121.

Journal Publications (cont.)

Ziauddin, S. and Dailey, M.N. (2010), Robust iris verification for key management. *Pattern Recognition Letters* 31(9): 926-935.

Dailey, M.N., Joyce, C., Lyons, M.J., Kamachi, M., Ishi, H., Gyoba, J., and Cottrell, G.W. (2010), Evidence and a computational explanation of cultural differences in facial expression recognition. *Emotion* 10(6), 874–893.

Sopharak, A., Dailey, M.N., Uyyanonvara, B., Barman, S., Williamson, T., Nwe, K.T., and Moe, Y.A. (2010), Machine learning approach to automatic exudate detection in retinal images from diabetic patients. *Journal of Modern Optics* 57(2): 124–135.

Rhienmora, P., Haddawy, P., Khanal, P., Suebnukarn, S., and Dailey, M.N. (2010), A virtual reality simulator for teaching and evaluating dental procedures. *Methods of Information in Medicine*, 49(4): 396–405.

Abbasi, A.R., Dailey, M.N., Afzulpurkar, N.V., and Uno, T. (2010), Student mental state inference from unintentional body gestures using dynamic Bayesian networks. *Journal on Multimodal User Interfaces* 3(1): 21–31.

Samphaiboon, N. and Dailey, M.N. (2010), Steganography in Thai text. *International Journal of Digital Crime and Forensics (IJDCF)*, 2(3): 43–64.

Bo Bo, N., Dailey, M.N., and Uyyanonvara, B. (2009), Natural-pose hand detection in low-resolution images. *Songklanakarin Journal of Science and Technology* 31(2): 157–165.

Suebnukarn, S., Haddawy, P., Dailey, M.N., and Cao, D.N. (2008), Interactive segmentation and three-dimensional reconstruction for cone-beam computed-tomography images. *NECTEC Technical Journal*, 8(20): 154–161.

Rhienmora, P., Haddawy, P., Dailey, M.N., Khanal, P., and Suebnukarn, S. (2008), Development of a dental skills training simulator using virtual reality and haptic device. *NECTEC Technical Journal*, 8(20): 140–147.

Namprempre, C. and Dailey, M.N. (2007), Mitigating dictionary attacks with text-graphics character CAPTCHAs. *IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences*, E90-A(1): 179–186.

Haddawy, P., Dailey, M.N., Kaewruen, P., Sarakhette, N., and Hai, L.H. (2007), Anatomical sketch understanding: Recognizing explicit and implicit structure. *Artificial Intelligence in Medicine*, 39(2): 165–177.

Dailey, M.N., Cottrell, G.W., Padgett, C., and Adolphs, R. (2002), EMPATH: A neural network that categorizes facial expressions. *Journal of Cognitive Neuroscience*, 14(8): 1158–1173.

Dailey, M.N. and Cottrell, G.W. (1999), Organization of Face and Object Recognition in Modular Neural Networks. *Neural Networks* 12(7–8): 1053–1074.

Conferences and Book Chapters

Chairat, A., Dailey, M.N., Limsoonthrakul, S., Ekpanyapong, M., and KC, D.R. (2020), Low cost, high performance automatic motorcycle helmet violation detection. In *Winter Conference on Applications of Computer Vision*, pp. 3549–3557.

Chaisiriprasert, P., Yongsiriwit, K., Simapornchai, A., and Dailey, M. (2019), Cloud-based services for cooperative robot learning of 3D object detection and recognition, In *Advances in Intelligent Systems and Computing*, 807, pp. 14–24.

Keatmanee, C., Jakborvornphan, S., Potiwanna, C., San-Uml, W., and Dailey, M.N. (2018), Vision-based lane keeping — A survey. In *International Conference on Embedded Systems and Intelligent Technology and International Conference on Information and Communication Technology for Embedded Systems*, article 8442051.

Karim, N.T., Jain, S., Moonrinta, J., Dailey, M.N., and Ekpanyapong, M. (2018), Customer and target individual face analysis for retail analytics. In *International Workshop on Advanced Imaging Technology (IWAIT)*.

Raj, K.C.D., Chairat, A., Timtong, V., Dailey, M.N., and Ekpanyapong, M. (2018), Helmet violation processing using deep learning. In *International Workshop on Advanced Imaging Technology (IWAIT)*.

Muhammad, S., Dailey, M.N., Sato, I., and Majeed, M.F. (2018), Handling specularity in intrinsic image decomposition, In *International Conference on Image Analysis and Recognition (ICIAR), Lecture Notes in Computer Science*, vol. 10882, pp. 107–115.

Kongsilp, S. and Dailey, M.N. (2017), Communication portals: Immersive communication for everyday life. In *Innovations in Clouds, Internet and Networks (ICIN)*, pp. 226–228.

Kongsilp, S., Ruensuk, M., Dailey, M.N., and Komuro, T. (2017), Tablet fish tank virtual reality: A usability study. In *International Conference on Artificial Reality and Telexistence, Eurographics Syposium on Vitual Environments (ICAT-EGVE)*, pp. 27–28.

Rajapaksha, P., Farahbakhsh, R., Mohammadi, S., Dailey, M.N., and Crespi, N. (2016), Video content delivery enhancement in CDNs based on users' social information. In *IEEE Globecom Workshops*, pp. 1–6.

Majeed, M.F., Ahmed, S.H., Muhammad, S., and Dailey, M.N. (2016), PDF: Push-based data forwarding in vehicular NDN. In *International Conference on Mobile Systems, Applications, and Services (MobiSys)*, companion volume, p. 54.

Nakaguro, Y., Qureshi, W.S., Dailey, M.N., Ekpanyapong, M., Bunnun, P., and Tungpimolrut, K. (2015), Volumetric 3D reconstruction and parametric shape modeling from RGB-D sequences. In *International Conference on Image Analysis and Processing (ICIAP)*, pp. 500–516.

Conferences and Book Chapters (cont.)

Rhienmora, P., Haddawy, P., Suebnukarn, S., Shrestha, P., and Dailey, M.N. (2015), Recognizing clinical styles in a dental surgery simulator. In *World Congress on Health and Biomedical Informatics (MedInfo)*, pp. 163–167.

Iqbal, W., Dailey, M.N., and Carrera, D. (2014), Low cost quality aware multi-tier application hosting on the Amazon cloud. In *International Conference on Future Internet of Things and Cloud*, pp. 202–209. Best paper award.

Qureshi, W.S., Satoh, S., Dailey, M.N., and Ekpanyapong, M. (2014), Dense segmentation of textured fruits in video sequences. In *International Conference on Computer Vision Theory and Applications (VISAPP)*, volume 2, pp. 441–447.

Basit, A., Dailey, M.N., Laksanacharoen, P., and Moonrinta, J. (2014), Fast target redetection for CAMSHIFT using back-projection and histogram matching. In *International Conference on Computer Vision Theory and Applications (VISAPP)*, volume 3, pp. 507–514.

R. Marikhu, J. Moonrinta, M. Ekpanyapong, M.N. Dailey, and S. Siddhichai (2013), Police Eyes: Real world automated detection of traffic violations. In *Proceedings of ECTI-CON*, Article number 6559635.

K. Ouivirach and M.N. Dailey (2013), Extracting the object from the shadows: Maximum likelihood object/shadow discrimination. In *Proceedings of ECTI-CON*, 2013. Article number 6559543.

M. Maidi, M. Preda, M.N. Dailey, and S. Kongsilp (2013), Natural feature tracking on a mobile handheld tablet. In *International Conference on Signal and Image Processing Applications*, pp. 246–251.

Basit, A., Dailey, M.N., and Laksanacharoen, P. (2012), Model driven state estimation for target pursuit. In *International Conference on Automation, Control, Robotics, and Computer Vision*, pp. 1077–1082.

Ouivirach, K., Gharti, S., Dailey, M.N. (2012), Automatic suspicious behavior detection from a small bootstrap set. In *International Conference on Computer Vision Theory and Applications (VISAPP)*, pp. 655–658.

S. Rinsurongkawong, M. Ekpanyapong, and M.N. Dailey (2012), Fire detection for early fire alarm based on optical flow video processing. In *Proceedings of ECTI-CON*, Article. no. 6254144.

Tongphu, S, Suntisrivaraporn, B, Uyyanonvara, B., and Dailey, M.N. (2012), Ontology-based object recognition of car sides. In *Proceedings of ECTI-CON*, Article. no. 6254268.

Iqbal, W., Dailey, M.N., and Carrera, D. (2011), Policy learning for adaptive allocation of cloud resources to multi-tier Web applications. In *ACM Symposium on Operating Systems Principles (SOSP)*, poster presentation.

Conferences and Book Chapters (cont.)

Baber, J., Afzulpurkar, N.V., Dailey, M.N., and Bakhtyar, M. (2011), Shot boundary detection from videos using entropy and local descriptor In *International Conference on Digital Signal Processing (DSP)*, pp. 1–6.

Iqbal, W., Dailey, M.N., and Carrera, D. (2011), Black-box approach to capacity identification for multi-tier applications hosted on virtualized platforms. In *International Conference on Cloud and Service Computing (CSC)*, pp. 111–117.

Ali, I. and Dailey, M.N. (2010), Head plane estimation improves the accuracy of pedestrian tracking in dense crowds. *International Conference on Automation, Robotics, and Computer Vision (ICARCV)*, pp. 2054–2059.

Moonrintra, J., Chaivivatrakul, S., Dailey, M.N., and Ekpanyapong, M. (2010), Fruit detection, tracking, and 3D reconstruction for crop mapping and yield estimation. *International Conference on Automation, Robotics, and Computer Vision (ICARCV)*, pp. 1181–1186.

Ahmed, M.T., Dailey, M.N., Landabaso, J.L., and Herrero, N. (2010), Robust key frame extraction for 3D reconstruction from video streams. *International Conference on Computer Vision Theory and Applications (VISAPP 2010)*, pp. 231–236.

Chaivivatrakul, S., Moonrinta, J., and Dailey, M.N. (2010), Towards automated crop yield estimation: Detection and 3D reconstruction of pineapples in video sequences. *International Conference on Computer Vision Theory and Applications (VISAPP 2010)*, pp. 180–183.

Bukhari, F. and Dailey, M.N. (2010), Robust radial distortion from a single image. In *International Symposium on Visual Computation*, Lecture Notes in Computer Science, Springer, to appear.

Iqbal, W., Dailey, M.N., Carrera, D., and Janecek, P. (2010), SLA-driven automatic bottleneck detection and resolution for read intensive multi-tier applications hosted on a cloud. *International Conference on Grid and Pervasive Computing (GPC 2010)*, Lecture Notes in Computer Science vol. 6104, Springer, pp. 37–46.

Ouivirach, O. and Dailey, M.N. (2010), Clustering human behaviors with dynamic time warping and hidden Markov models for a video surveillance system. *Proceedings of ECTI-CON 2010*, pp. 884–888.

Iqbal, W., Dailey, M.N., Ali, I., Janecek, P., and Carrera, D. (2010), Adaptive resource allocation for back-end mashup applications on a heterogeneous private cloud. *Proceedings of ECTI-CON 2010*, pp. 317–321.

Rhienmora, P., Gajananan, K., Haddawy, P., Suebnukarn, S., Dailey, M.N., Supataratarn, E., and Shrestha, P. (2010), Haptic augmented reality dental trainer with automatic performance assessment. In *International Conference on Intelligent User Interfaces*, pp. 425-426, 2010.

Conferences and Book Chapters (cont.)

Iqbal, W., Dailey, M.N., and Carrera, D. (2009), SLA-driven adaptive resource management for Web applications on a heterogeneous compute cloud. In *International Conference on Cloud Computing*, Lecture Notes in Computer Science vol. 5931, Springer, pp. 243–253.

Limsoonthrakul, S., Dailey, M.N., and Parnichkun, M. (2009), Intelligent vehicle localization using GPS, compass, and machine vision. In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 3981–3986.

Ali, I., and Dailey, M.N. (2009), Multiple human tracking in high-density crowds. In *Advanced Concepts in Intelligent Vision Systems (ACIVS)*. Lecture Notes in Computer Science vol. 5807, Springer, pp. 540–549.

Tongphu, S., Thongsak, N., and Dailey, M.N. (2009), Rapid detection of many object instances. In *Advanced Concepts in Intelligent Vision Systems (ACIVS)*. Lecture Notes in Computer Science vol. 5807, Springer, pp. 434–444.

Zask, R. and Dailey, M.N. (2009), Rapid 3D visualization of indoor scenes using 3D occupancy grid isosurfaces. In *Proceedings of ECTI-CON 2009*, pp. 672–675.

Ziauddin, S. and Dailey, M.N. (2009), A robust hybrid iris localization technique. In *Proceedings of ECTI-CON 2009*, pp. 1058–1061.

Rhienmora, P., Haddawy, P., Suebnukarn, S., and Dailey, M.N. (2009), A VR environment for assessing dental surgical expertise. *International Conference on Artificial Intelligence in Education*, pp. 746–748.

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Waranusast, R., Haddawy, P., and Dailey, M.N. (2009), Segmentation of text and non-text in on-line handwritten patient record based on spatio-temporal analysis. In *Proceedings of the Conference on Artificial Intelligence in Medicine*. Lecture Notes in Computer Science, vol. 5651, Springer, pp. 345–354.

Limsoonthrakul, S., Dailey, M.N., Srisupundit, M., Tongphu, S., and Parnichkun, M. (2008), A modular system architecture for autonomous robots based on blackboard and publish-subscribe mechanisms. In *IEEE International Conference on Robotics and Biomimetics (ROBIO 2008)*, pp. 633–638.

Abbasi, A.R., Dailey, M.N., Afzulpurkar, N.V., and Uno, T. (2008), Probabilistic prediction of student affect from hand gestures. In *International Conference on Automation, Robotics and Control Systems (ARCS)*, pp. 58–63.

Conferences and Book Chapters (cont.)

Ziauddin, S., and Dailey, M.N. (2008), Iris recognition performance enhancement using weighted majority voting. In *International Conference on Image Processing (ICIP)*, pp. 277–280.

Haruechaiyasak, C., Kongyoung, S., and Dailey, M.N. (2008), A comparative study on Thai word segmentation approaches. In *Proceedings of ECTI-CON 2008*, pp. 125–128.

Abbasi, A.R., Dailey, M.N., Afzulpurkar, N.V., and Uno, T. (2008), Obtaining self-reports for affective system design. In *NordiCHI2008 Workshop on Research Goals and Strategies for Studying User Experience and Emotion.*

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Sopharak, A., Thet Nwe, K., Moe, Y.A., Dailey, M.N., and Uyyanonvara, B. (2008), Automatic exudate detection with a naive Bayes classifier. In *Proceedings of the International Conference on Embedded Systems and Intelligent Technology (ICESIT)*, pp. 139–142.

Marikhu, R., Dailey, M.N., Makhanov, S.S., and Honda, K. (2007), A family of quadratic snakes for road extraction. In *Proceedings of the Eighth Asian Conference on Computer Vision (ACCV 2007)*, Lecture Notes in Computer Science (LNCS) vol. 4843, Springer, pp. 85–94.

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Amin, M.A., Afzulpurkar, N.V., Dailey, M.N., Esichaikul, V.E., and Batanov, D.N. (2005), Fuzzy-C-Mean determines the principle component pairs to estimate the degree of emotion from facial expressions. In *Fuzzy Systems and Knowledge Discovery*, Lecture Notes in Artificial Intelligence vol. 3613, Springer, pp. 484–493.

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Dailey, M.N. and Parnichkun, M. (2005), Landmark-based simultaneous localization and mapping with stereo vision. In *Proceedings of the 2005 Asian Conference on Industrial Automation and Robotics (ACIAR '05)*, F-15. Reprinted in *International Journal for Manufacturing Science & Technology*, 8(2), 17–22, 2006.

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Cottrell, G.W., Dailey, M.N., Padgett, C., and Adolphs, R. (2000). Is *all* face processing holistic? The view from UCSD. In Wenger, M. and Townsend, J. (Eds.) *Computational, Geometric, and Process Perspectives on Facial Cognition: Contexts and Challenges.* Erlbaum, Mahwah NJ, pp. 347–395.

Dailey, M.N., Cottrell, G.W., and Busey, T.A. (1999), Facial memory is kernel density estimation (almost). In *Advances in Neural Information Processing Systems 11,* MIT Press, Cambridge MA, pp. 24–30.

Dailey, M.N. and Cottrell, G.W. (1999), Prosopagnosia in modular neural network models. In Reggia, J., Ruppin, E., and Glanzman, D., Eds., *Disorders of Brain, Behavior, and Cognition: The Neurocomputational Perspective*, Progress in Brain Research series vol. 121. Elsevier, Amsterdam, pp. 165–184.

Conferences and Book Chapters (cont.)

Dailey, M.N. and Cottrell, G.W. (1998), Task and spatial frequency effects on face specialization. In *Advances In Neural Information Processing Systems 10,* MIT Press, Cambridge MA, pp. 17–23.

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Patents

Boonnateephisit, V., Dailey, M.N, Ekpanyapong, M., and Wickramathilake, T. (2017), Pile driving monitoring system. Thai patent pending, submitted Sept. 2017.

Yoowattana, S., Rinsurongkawong, S., Ekpanyapong, M., Dailey, M.N., Marikhu, R., Moonrinta, J., and Siddhichai, S. (2012), Automated lane violation detection system, Thai patent pending, submitted 21 Feb. 2012.

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Dailey, M.N., Freitag, D.B., Hathaidharm, C., and Pathria, A.K. (2005), Method for improving results in an HMM-based segmentation system by incorporating external knowledge, US Patent 6,965,861.

Other Publications

Deshapriya, N.L., Dailey, M.N., Hazarika, M.K., and Miyazaki, H. (2020), Vec2Instance: Parameterization for deep instance segmentation. CoRR abs/2010.02725.

Talks and Posters

Dailey, M.N., "Machine Learning for Computer Vision." Series of TEKBAC workshops in Kuala Lumpur and Singapore, April 2013.

Dailey, M.N. "Machine Vision for Mobile Robots." Invited lecture at the Mahasarakham International Workshop on Artificial Intelligence (MIWAI '08), Mahasarakham, Thailand, Dec 2008.

Dailey, M.N. "Fundamental Techniques in Machine Learning and Image Processing." Invited lecture at the Asian Applied Natural Language Processing School (ADD-3), Bangkok, Thailand, Feb 2008.

Dailey, M.N. and Parnichkun, M. "Simultaneous Localization and Mapping with Stereo Vision." Oral presentation at the Thailand Research Fund annual retreat, Cha-Am, Thailand, Oct 2006.

Dailey, M.N. and Parnichkun, M. "Simultaneous Localization and Mapping with Stereo Vision." Poster presentation at the Thailand Research Fund annual retreat, Cha-Am, Thailand, Oct 2005.

Dailey, M.N. "Simultaneous Localization and Mapping with Stereo Vision." Invited lecture in the Ravensburg-Weingarten University of Applied Sciences Mechatronics program, Germany, Oct 2004.

Dailey, M.N. "Introduction to AI Robotics." Series of 3 lectures presented at Thammasat University Faculty of Engineering, Klong Luang, Thailand, March 2003.

Dailey, M.N., Lyons, M.J., Kamachi, M., Ishi, H., Gyoba, J., and Cottrell, G.W. "Cultural Differences in Facial Expression Classification." Poster presented at the Ninth Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA, April 2002.

Dailey, M.N., and Cottrell, G.W. "Classifying Static Facial Expressions." Invited talk at the Neural Information Processing Systems (NIPS) 2000 Workshop on Affective Computing, Breckenridge, CO, December 2000.

Dailey, M.N., Cottrell, G.W., and Adolphs, R. "Computational Modeling of Human Perception of Emotional Facial Expressions." Poster presented at the Seventh Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA, April 2000.

Dailey, M.N., and Cottrell, G.W. "A Neural Network Model for Human Facial Expression Recognition." Invited talk at the International Joint Conference on Neural Networks (IJCNN) '99, Washington, D.C., July 1999.

Dailey, M.N. "A Neural Network Model for Human Facial Expression Recognition." Invited talk at University of California, Irvine, Irvine, CA, February 2000.

Talks and Posters (cont.)

Dailey, M.N., Cottrell, G.W., and Busey, T.A. "Facial Memory is Kernel Density Estimation (Almost)." Invited talk at the Fifth Joint Symposium on Neural Computation, University of California, San Diego (UCSD), La Jolla, CA, May 1998.

Dailey, M.N., and Cottrell, G.W. "Task and Spatial Frequency Effects on Face Specialization." Poster presented at the Fifth Annual Meeting of the Cognitive Neuroscience Society, San Francisco, April 1998.

Dailey, M.N. "How are Faces Special?" Invited talk at the Twenty-Third Annual Interdisciplinary Conference, Jackson Hole, WY, February 1998.

Dailey, M.N. and Cottrell, G.W., "Learning a Specialization for Face Recognition: The Effect of Spatial Frequency." Poster presented at the Fourth Joint Symposium on Neural Computation, University of Southern California (USC), Los Angeles, CA, May 1997.

Professional History

Professor July 2018–Present
AIT AI Center Director Jan 2019–Present
Associate Professor March 2012–June 2018
ICT Department Head Jan 2017–Present
Assistant Professor April 2006–February 2012
CSIM program coordinator May 2010–May 2012
Undergraduate program coordinator May 2010–Present
Department of Information and Communication Technologies (formerly Computer Science and Information Management Program), Asian Institute of Technology, Thailand.
Teaching and research position. Graduate courses: Machine Learning, Applied Machine Vision, Cloud Robotics, Web Application Engineering, Software Architecture Design. Undergraduate courses: Introduction to Computers and Programming, Computer Systems Architecture, Operating Systems, Object-Oriented Analysis and Design, Database Design, Digital Image Processing, Machine Vision, Engineering Praxis. Short courses: Linux for Real-Time Control, IT for Non-Specialists.

Lecturer January 2004–March 2006
Computer Science and Information Technology, SIIT, Thammasat University, Thailand.
Teaching and research position. Courses: Operating Systems, Programming Languages, Artificial Intelligence, Compiler Construction, Networking Laboratory, Computer Architecture. Advisor to the SIIT Createch robotics student club and the SIIT RoboCup (robot football) team.

Adjunct Lecturer January 2005–April 2005
CSIM Program, Asian Institute of Technology, Thailand.

Adjunct Lecturer June 2004–October 2004
MSIT Program, Shinawatra University, Thailand.

Research Scientist November 2001–November 2003
Vision Robotics Corp., San Diego, CA USA.
Performed research and development for autonomous mobile robotics software. Designed and empirically evaluated algorithms for vision-based robot localization, navigation, and environment mapping.

Scientist March 2000–October 2001
Burning Glass Technologies, San Diego, CA USA.
Performed research on statistical modeling and machine learning techniques for large databases of resumes and job postings. Designed and empirically evaluated natural language processing and information extraction algorithms.

Graduate Student Researcher June 1998–June 2001
Computer Science and Engineering Department, UCSD.
Performed research on machine vision, facial identity recognition, and facial expression recognition.

Professional History (cont.)

Consultant September 1998–February 2000
Netrologic, Inc., San Diego, CA USA.
Developed image processing, computer vision, and machine learning algorithms for machine identification of the leaves of flowering plants.

Graduate Teaching Assistant September 1995–June 1998
Computer Science and Engineering Department, UCSD.
Prepared course materials, gave supplementary lectures, graded work, and tutored students in Theory of Computation, Compiler Construction, Operating Systems Principles, Multimedia Systems, Java Seminar, and Comparative Programming Languages. Won the department's Teaching Excellence Award in 1998.

Consultant June 1997–September 1997
HNC Software, San Diego, CA, USA.
Performed research on statistical modeling and machine learning techniques for financial fraud detection.

Consultant June 1996–September 1996
Encyclopædia Britannica, La Jolla, CA USA.
Employed user interface design and web programming techniques to improve the encyclopedia's online interface.

Graduate Research Assistant August 1993–September 1995
Graduate Teaching Assistant
Computer Science Department, North Carolina State University.
Researched knowledge-based user interfaces and intelligent customization of World Wide Web content to user needs. Assisted courses in Artificial Intelligence, Computational Linguistics, Networking Projects, and Automata Theory.

Software Designer August 1989–August 1994
BNR, Inc., Research Triangle Park, NC USA.
Seasonal internships during undergraduate study and full-time work after graduation. Designed, maintained, and re-engineered software components in a large telecommunications system.

Professional Activities

Reviewer, Thailand Research Fund grant programs, 2012–2017.

Program committee (area chair for Signal Processing section), ECTI-CON 2010 and 2011; program committee member, ECTI-CON 2009.

Program committee, 2009 International Conference on Information and Automation (ICIA 2009).

Technical Program Committee Co-Chair, 2008 and 2009 IEEE International Symposium on Intelligent Signal Processing and Communication Systems (ISPACS 2008, ISPACS 2009).

Program committee, 2008, 2009, 2010 Mahasarakham International Workshop on Artificial Intelligence (MIWAI 2008, MIWAI 2009, MIWAI 2010).

Program committee, 2008 IEEE International Conference on Robotics and Biomimetics (ROBIO 2008).

Program committee, 2007 International Conference on Database Systems for Advanced Applications (DASFAA 2007).

Technical committee, 2005 Asian Conference on Industrial Automation and Robotics (ACIAR '05).

Fulbright scholarhip committee, Thailand-U.S. Educational Foundation, 2005.

Reviewer for *IEEE Transactions on Image Processing*; *Neural Networks*; *IEEE Transactions on Neural Networks*; *Neurocomputing*; *Journal of Intelligent and Robotic Systems*; *Journal of Modern Optics*; *International Journal of Pattern Recognition and Artificial Intelligence*; *EURASIP Journal on Advances in Signal Processing*; *Engineering Applications of Artificial Intelligence*; *Cognition*; *Cognitive Science*; *Journal of Nonverbal Behavior*; *Emotion*; *Thammasat International Journal of Science and Technology*; *ECTI Transactions on Electrical Engineering, Electronics, and Communications*; IEICE journals, the Advances in Neural Information Processing Systems (NIPS) conference; the Cognitive Science Society conference; *The Handbook of Brain Theory and Neural Networks*; the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS); the International Conference on Robotics and Automation (ICRA); the Advanced Concepts for Intelligent Vision Systems (ACIVS) conference; the International Conference on Control, Automation, Robotics, and Vision (ICARCV); the International Conference on Computer Vision Theory and Applications (VISAPP); the International Joint Conference on Neural Networks (IJCNN); the International Conference on Automation, Robotics, and Control Systems (ARCS); the International Conference on Artificial Intelligence and Pattern Recognition (AIPR); the International Conference on Information Security and Cryptology; the International Conference on Asian Digital Libraries; numerous technical conferences in Thailand.

Senior Member of IEEE. Member of the IEEE Computer Society, the IEEE Robotics and Automation Society (RAS), the American Association for Artificial Intelligence (AAAI), and the Thai Robotics Society (TRS).