Xiao Han, Ph.D.

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RESEARCH EXPERTISE

Image Processing, Computational Pathology, Adaptive Radiotherapy, Brain Mapping, Image Segmentation, Deformable Image Registration, Machine Learning, Deep Learning.

EDUCATION

Ph.D. October 2003, Electrical Engineering, The Johns Hopkins University
Dissertation title: *Anatomically Consistent Segmentation of Medical Imagery Using a Level Set Method and Digital Topology*

M.Sc. May 2001, Electrical Engineering, The Johns Hopkins University

M.Eng. June 1997, Electrical Engineering, National University of Singapore

B.Sc. July 1994, Electrical Engineering, University of Science and Technology of China, China

RESEARCH & WORK EXPERIENCE

Professor, Sichuan University, China, May 2025 — Date

- Commit to the advancements of computational pathology techniques to expedite disease diagnosis and precision medicine.
- Develop self-supervised learning methods for multi-modal feature extraction.
- Develop weakly supervised multi-instance learning techniques for automatic cancer diagnosis and grading.
- Develop pathology foundation models and explore their application potentials in generalized cancer diagnosis, prognosis prediction, and clinical decision-making.

Principal Scientist & Deputy General Manager, AI Healthcare Center, Tencent, May 2018 — April 2025

- Research and development of deep learning methods for pathological image analysis. Supervised and co-authored more than 40 papers in internationally renowned journals and conferences.
- Led the development of the Augmented Reality Intelligent Microscope product, which was granted the Class II medical device certificate by China NMPA in 2021.
- Led the development of the Tencent AIMIS Digital Pathology Platform product, which obtained the EU CE certification in January 2022, and won an *Advanced Technology Achievement* award in the 2022 China International Big Data Industry Expo.
- Led the collaboration project with Mindray Medical to develop China's first AI-assisted peripheral blood cell analysis product, which enables better identification of different blood cells with high throughput. The product was granted the "Green Pathway" for innovative medical devices by China NMPA in 2022, breaking the monopoly of an imported brand in the blood cell analysis market.
- Filed 80+ China national patent applications, 40 of which are already granted. One patent received the Outstanding National Patent Award of China in 2022. Two other patents received the Annual Patent Gold Award of Tencent in 2022 and 2023 respectively.

Senior Scientist, Elekta, March 2006 — April 2018

- Research and development of deformable image registration, atlas-based auto-segmentation, and machine learning, deep learning auto-segmentation methods for applications in the field of radiation therapy.
- Developed various deformable image registration methods for CT, CBCT, and MR images.
- Developed various atlas-based, random forests machine learning, and deep convolutional neural network methods for synthetic CT generation for MRI-only radiation therapy.
- Led the development of the ADMIRE® (*Advanced Medical Image Registration Engine*) research software of Elekta, which has been used by many collaborators in the medical physics field.

- Led the development of the ABAS® (*Atlas-based Auto-Segmentation*) product of Elekta, the first version of which was officially released in August, 2008, and the second version was released in 2010.
- Led the development of interactive image segmentation and editing tools for company products.

Postdoctoral Fellow, Massachusetts General Hospital, Harvard Medical School, September 2004 — March 2006

- Research and development in brain morphometric analysis, whole brain parcellation, segmentation of multi-spectral MRI brain images, multi-modality image registration, shape modeling and classification.
- Proposed an atlas normalization method that greatly improved accuracy for brain MR image segmentation across scanner platforms.
- Developed methods for brain image segmentation using a novel multi-channel MR sequence.
- Supervised a PhD student in research and development of statistical shape modeling and analysis using spherical wavelet decomposition.

Postdoctoral Fellow, The Johns Hopkins University, November 2003 — August 2004

- Developed a multi-grid numerical method for fast computation of gradient vector flow for model-based image segmentation.
- Proposed a moving-grid framework for improving computation efficiency of geometric deformable models.
- Supervised a PhD student in developing methods for simultaneous super-resolution MR brain image reconstruction and image segmentation.

PROFESSIONAL ACTIVITIES

Senior Program Committee, AAAI 2026 Conference

Senior member of IEEE

Member of AAPM

Reviewer for

Nature Communications
IEEE Transactions on Pattern Analysis and Machine Intelligence
IEEE Transactions on Medical Imaging
IEEE Transactions on Image Processing
Medical Image Analysis
NeuroImage
Signal Processing (An International Journal)
Optics Letters
Medical Physics

HONORS AND AWARDS

1. Ranked as the Worlds' Top 2% Most-cited Scientists by Stanford University, 2020 – 2024
2. Won a China National Patent Outstanding Award in 2022
3. Won the Gold Prize at Tencent's Annual Patent Awards in both 2022 and 2023
4. Won the Advanced Technology Achievement Award at the 2022 China International Big Data Industry Expo
5. First Prize, AAPM Thoracic Image Auto-Segmentation Challenge 2017, in the 59th AAPM Annual Meeting, Denver, USA
6. First Prize, LiTS - Liver Tumor Segmentation Challenge 2017, in the IEEE International Symposium on Biomedical Imaging (ISBI) 2017, Melbourne, Australia
7. First Prize, Head and Neck Auto-Segmentation Challenge 2010, in the 13th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2010), Beijing, China

8. First Prize, EMPIRE10 – Pulmonary Image Registration Challenge 2010, in the 13th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2010), Beijing, China
9. First Prize, Head and Neck Auto-Segmentation Challenge 2009, in the 12th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2009), London, UK

PUBLICATIONS

Journal Articles (* indicates corresponding author):

J1. S. Chen, X. Wang, J. Zhang, L. Jiang, F. Gao, J. Xiang, S. Yang, W. Yang, J. Zheng, **X. Han***. Deep learning-based diagnosis and survival prediction of patients with renal cell carcinoma from primary whole slide images. *Pathology*, 56(7):951-960, 2024.

J2. F. Kong, X. Wang, J. Xiang, S. Yang, X. Wang, M. Yue, J. Zhang, J. Zhao, **X. Han**, Y. Dong, B. Zhu, F. Wang, Y. Liu. Federated Attention Consistent Learning Models for Prostate Cancer Diagnosis and Gleason Grading. *Computational and Structural Biotechnology Journal*, 23:1439-1449, 2024.

J3. X. Wang, J. Zhao, E. Marostica, W. Yuan, J. Jin, J. Zhang, R. Li, H. Tang, K. Wang, Y. Li, F. Wang, Y. Peng, J. Zhu, J. Zhang, C.R. Jackson, J. Zhang, D. Dillon, N. Lin, L. Sholl, T. Denize, D. Meredith, K. Ligon, S. Signoretti, S. Ogino, J. Golden, M. Nasrallah, **X. Han**, S. Yang, K. Yu. A Pathology Foundation Model for Cancer Diagnosis and Prognosis Prediction. *Nature*, 8035(634):970-978, 2024.

J4. J. Li, P. Dong, X. Wang, J. Zhang, M. Zhao, H. Shen, L. Cai, J. He, M. Han, J. Miao, H. Liu, W. Yang, **X. Han***, Y. Liu. Artificial Intelligence Enhances Whole-Slide Interpretation of PD-L1 CPS in Triple-Negative Breast Cancer: A Multi-institutional Ring Study. *Histopathology*, 85(3):451-467, 2024.

J5. P. Xue, H. Xu, H. Tang, H. Weng, H. Wei, Z. Wang, H. Zhang, Y. Weng, L. Xu, H. Li, S. Seery, **X. Han**, H. Ye, Y. Qiao. Improving the Accuracy and Efficiency of Abnormal Cervical Squamous Cell Detection With Cytologist-in-the-loop Artifical Intelligence. *Modern Pathology*, 36(8):100186, 2023.

J6. P. Xue, H. Xu, H. Tang, W. Wu, S. Seery, **X. Han**, H. Ye, Y, Jiang, Y. Qiao. Assessing Artificial Intelligence Enabled Liquid-based Cytology for Triaging HPV-positive Women: A Population-based Cross-sectional Study. *Acta Obstetricia et Gynecologogica Scandinavica*, 102(8):1026–1033, 2023.

J7. S. Cheng, J. Xiang, X. Wang, J. Zhang, S. Yang, W. Yang, J. Zheng, **X. Han***. Deep Learning-based Pathology Signature Could Reveal Lymph Node Status and Act as a Novel Proganosis Marker across Multiple Cancer Types. *British J. Cancer*, 129:46–53, 2023.

J8. X. Wang, Y. Fang, S. Yang, D. Zhu, M. Wang, J. Zhang, J. Zhang, J. Cheng, K. Tong, **X. Han***. CLC-Net: Contextual and Local Collaborative Network for Lesion Segmentation in Diabetic Retinopathy Images. *Neurocomputing*, 527:100-109, 2023.

J9. Z. Yang, X. Wang, J. Xiang, J. Zhang, S. Yang, X. Wang, W. Yang, Z. Li, **X. Han**, Y. Liu. The Devil is in the Details: A Small-lesion Sensitive Weakly Supervised Learning Framework for Prostate Cancer Detection and Grading. *Virchows Archiv*, 482(3):525-538, 2023.

J10. S. Wu, M. Yue, J. Zhang, X. Li, Z. Li, H. Zhang, X. Wang, **X. Han**, L. Cai, J. Shang, Z. Jia, X. Wang, J. Li, Y. Liu. The role of Artificial Intelligence in Accurate Interpretation of HER2 Immunohistochemical Scores 0 and 1+ in Breast Cancer. *Modern Pathology*, 36(3):100054, 2023.

J11. W. Zhang, J. Zhang, X. Wang, S. Yang, J. Huang, W. Yang, W. Wang, **X. Han***. Merging Neucleus Datasets by Correlation-based Cross-Training. *Med. Imag. Anal.*, 84(102705), 2023.

J12. X. Wang, J. Zhang, S. Yang, J. Xiang, F. Luo, M. Wang, J. Zhang, W. Yang, J. Huang, **X. Han***. A Generalizable and Robust Deep learning Algorithm for Mitosis Detection in Multicenter Breast Histopathological Images. *Med. Imag. Anal.*, 84(102703), 2023.

J13. J. Xiang, X. Wang, X. Wang, J. Zhang, S. Yang, W. Yang, **X. Han**, Y. Liu. Automatic Diagnosis and grading of Prostate Cancer with Weakly Supervised Learning on Whole Slide Images. *Computers in Biology and Medicine*. 152(106340), 2023.

J14. X. Wang, X. Du, S. Yang, J. Zhang, M. Wang, J. Zhang, W. Yang, J. Huang, **X. Han***. RetCCL: Clustering-guided Contrastive Learning for Whole-slide image retrieval. *Med. Imag. Anal.*. 83(102645), 2023.

J15. S. Yang, T. Shen, Y. Fang, X. Wang, J. Zhang, W. Yang, J. Huang, **X. Han***. DeepNoise: Signal and Noise Disentanglement based on Classifying Flurescent Microscopy Images via Deep Learning. *Genomics, Proteomics & Bioinformatics*. 20(5):989–1001, 2022.

J16. X. Wang, S. Yang, J. Huang, M. Wang, J. Zhang, W. Yang, J. Huang, **X. Han***. Transformer-based Unsupervised Contrastive Learning for histopathological Image Classification. *Med. Imag. Anal.*, 81(102559), 2022.

J17. W. Zhang, J. Zhang, S. Yang, X. Wang, W. Yang, J. Huang, W. Wang, **X. Han***. Knowledge-based Representation Learning for Nucleus Instance Classification From Histopathological Images. *IEEE Tran. Med. Imag.*, 41(12):3939–3951, 2022.

J18. X. Wang, R. Wang, S. Yang, J. Zhang, M. Wang, D. Zhong, J. Zhang, **X. Han***. Combining Radiology and Pathology for Automatic Glioma Classification. *Front. Bioeng. Biotechnol.*, 10(841958), 2022.

J19. J. Zhang, Z. Hua, K. Yan, K. Tian, J. Yao, E. Liu, M. Liu, **X. Han***. Joint Fully Convolutional and Graph Convolutional Networks for Weakly-supervised Segmentation of Pathology Images. *Med. Imag. Anal.*, vol. 73, 2021.

J20. M.Yue, J. Zhang, X. Wang, K. Yan, L. Cai, K. Tian, S. Niu, **X. Han**, Y. Yu, J. Huang, D. Han, J. Yao, Y, Liu. Can AI-Assisted Microscope facilitate breast HER2 Interpretation? A Multi-institute Ring Study. *Virchows Archiv*, 479(3):443–449, 2021.

J21. X. Wang, L. Wang, H. Bu, N. Zhang, M. Yue, Z. Jia, L. Cai, J. He, Y. Wang, X. Xu, S. Li, K. Xiao, K. Yan, K. Tian, **X. Han**, J. Huang, J. Yao, Y. Liu. How can artificial intenlligence models assist PD-L1 expression scoring in breast cancer: results of multi-institutional ring studies. *NPJ Breast Cancer*, 7(1):1–10, 2021.

J22. L. Cai, K. Yan, H. Bu, M. Yue, P. Dong, X. Wang, L. Li, K. Tian, H. Shen, J. Zhang, J. Shang, S. Niu, D. Han, C. Ren, J. Huang, **X. Han**, J. Yao, Y. Liu. Improving Ki-67 Assessment Concordance with AI-Empowered Microscope: A Multi-institutional Ring Study. *Histopathology*, 79(4):544–555, 2021.

J23. H. Tang, D. Cai, Y. Kong, H. Ye, Z. Ma, H. Lv, L. Tuo, Q. Pan, Z. Liu, **X. Han***. Cervical Cytology screening facilitated by an artificial intelligence microscope: A Preliminary Study. *Cancer Cytopathology*, 129(9):693–700, 2021.

J24. X. Wang, S. Yang, Y. Fang, Y. Wei, M. Wang, J. Zhang, **X. Han***. SK-Unet: An Improved U-Net Model with Selective Kernel for the Segmentation of LGE Cardiac MR Images. *IEEE Sensors J.* 21(10):11643–11653, 2021.

J25. W. Liang, J. Yao, A. Chen, ..., **X. Han**, W. Huan, ..., N. Zhong, J. Huang, J. He. Early triage of criticially ill COVID-19 patients using deep learning. *Nat. Commun.* 11 (3543), 2020.

J26. X. Wang, Y. Fang, S. Yang, D. Zhu, M. Wang, J. Zhang, K. Tong, **X. Han***. A Hybrid Network for Automatic Hepatocellular Carcinima Segmentation in H&E-stained Whole Slice Images. *Med. Imag. Anal.*, 68(101914), 2021.

J27. X. Wang, T. Shen, S. Yang, J. Lan, Y. Xu, M. Wang, J. Zhang, **X. Han***. A Deep Learning Algorithm for Automatic Detection and Classification of Acute Intracranial Hemorrhages in head CT Scans. *NeuroImage: Clinical*, 32(102785), 2021.

J28. X. Wang, S. Yang, J. Lan, Y. Fang, J. He, M.Wang, J. Zhang, **X. Han***. Automatic Segmentation of Pneumothorax in Chest Radiographs Based on a Two-stage Deep Learning Method. *IEEE Trans. Cognit. Dev. Syst.*, 2020.

J29. H. Arabi, J.A. Dowling, N. Burgos, **X. Han**, P.B. Greer, N. Koutsouvelis, and H. Zaidi. Comparative Study of Algorithms for Synthetic CT Generation from MRI: Consequences for MRI-Guided Radiation Planning in the Pelvic Region. *J. Med. Phys.*, 45(11):5218–5233, 2018.

J30. **X. Han** with AAPM'17 Team. Auto-segmentation for Thoracic Radiation Treatment Planning: A Grand Challenge. *J. Medical Physics*, 45(10):4568–4581, 2018.

J31. A. Qin, D. Ionascu, J. Liang, J. Zhu, **X. Han**, N. O'Connell, and Y. Di. The Evaluation of a hybrid Biomechanical Deformable Registration Method on a Multistage Physical Phantom with Reproducible Deformation. *Radiation Oncology*, 13(1):1–13, 2018.

J32. A. Qin, J. Liang, **X. Han**, N. O'Connel, and D. Yan. Technical Note: The Impact of Deformable Image Registration Methods on Dose Warping. *J. Medical Physics*, 45(3):1287-1294, 2018.

J33. **X. Han**. MR-based Synthetic CT Generation using a Deep Convolutional Neural Network Method. *J. Medical Physics*, 44(4):1408-1419, 2017.

J34. Y. Bai, **X. Han** and J. L. Prince. Octree Grid Topology-Preserving Geometric Deformable Model (OTGDM). *Advances in Imaging and Electron Physics*, 181:1–34, 2014.

J35. **X. Han** with EMPIRE'10 Team. Evaluation of Registration Methods on Thoracic CT: The EMPIRE10 Challenge. *IEEE Trans. Med. Imag.*, 30(11):1901–1920, 2011.

J36. D. Teguh, P. Levendag, P. Voet, A. Al-Mamgani, **X. Han**, T. Wolf, L. Hibbard, P. Nowak, H. Akhiat, M. Dirkx, B. Heijmen, and M. Hoogeman. Clinical Validation of Atlas-based Auto-Segmentation of Multiple Target Volumes and Normal Tissue Structures in the Head and Neck. *Int. J. Radiat. Oncol. Biol. Phys.*, 81(4):950–957, 2011.

J37. **X. Han**, C. Xu and J. L. Prince. A Moving Grid Framework for Geometric Deformable Models. *Int. J. Computer Vision*, 84(1):63–79, 2009.

J38. Y. Bai, **X. Han** and J. L. Prince. Digital Topology on Adaptive Octree Grids. *Journal of Mathematical Imaging and Vision*, 34(2):165–184, 2009.

J39. J. Jovicich, S. Czanner, **X. Han**, D. Salat, A. van der Kouwe, B. Quinn, J. Pacheco, M. Albert, R. Killiany, D. Blacker, P. Mahuire, D. Rosas, N. Makris, R. Gollub, A. Dale, B. Dickerson, and B. Fischl. MRI-derived Measurements of Human Subcortical, Ventricular and Intracranial Brain Volumes. *NeuroImage*, 46(1):177–92, 2009.

J40. **X. Han** and B. Fischl. Atlas renormalization for improved brain MR image segmentation across scanner platforms. *IEEE Trans. Medical Imaging: special issue on computational neuroanatomy*, 26(4):479–486, 2007.

J41. Y. Peng, P. E. Grant, Y. Qi, **X. Han**, F. Segonne, R. Pienaar, E. Busa, J. Pacheco, N. Makris, R. L. Buckner, P. Golland, and B. Fischl. Cortical surface shape analysis based on spherical wavelets. *IEEE Trans. Medical Imaging: special issue on computational neuroanatomy*, 26(4):582–597, 2007.

J42. **X. Han**, C. Xu, and J. L. Prince. Fast numerical scheme for gradient vector flow computation using a multigrid method. *IEE Proceedings on Vision, Image & Signal Processing*, 1(1):48–55, 2007.

J43. **X. Han**, J. Jovicich, B. Dickerson, B.T. Quinn, A. Dale, and B. Fischl. Reliability of MRI-derived measurements of human cerebral cortical thickness. *NeuroImage*, 32(1):180–194, 2006.

J44. **X. Han**, D. L. Pham, D. Tosun, M. E. Rettmann, C. Xu, and J. L. Prince. CRUISE: Cortical reconstruction using implicit surface evolution. *NeuroImage*, 23(3):997–1012, 2004.

J45. D. Tosun, M. E. Rettmann, **X. Han**, X. Tao, C. Xu, S. M. Resnick, D. L. Pham, and J. L. Prince. Cortical surface segmentation and mapping. *NeuroImage*, 23(1):S108–S118, 2004.

J46. J. T. Ratnanather, L. Wang, M. B. Nebel, M. Hosakere, **X. Han**, J. G. Csernansky, and M. I. Miller. Validation of semi-automated methods for quantifying cingulate cortical metrics in Schizophrenia. *Psychiatry Research: NeuroImaging*, 132:53–68, 2004.

J47. **X. Han**, C. Xu, and J. L. Prince. A topology preserving level set method for geometric deformable models. *IEEE Trans. on Patt. Anal. Machine Intell.*, 25(6):755–768, 2003.

J48. M. E. Rettmann, **X. Han**, C. Xu, and J. L. Prince. Automated sulcal segmentation using watersheds on the cortical surface. *NeuroImage*, 15(2):329–344, 2002.

J49. **X. Han**, C. Xu, U. Braga-Neto, and J. L. Prince. Topology correction in brain cortex segmentation using a multiscale, graph-based algorithm. *IEEE Trans. on Medical Imaging*, 21(2):109–121, 2002.

J50. Q.Z. Ye, S.H. Ong, and **X. Han**. A stereo vision system for the inspection of IC bonding wires. *Int. J. Imaging Systems and Technology*, 11(4):254–262, 2000.

Book Chapters:

1. Y. Bai, **X. Han**, and J. L. Prince. Geometric Deformable Models. In *Handbook of Biomedical Imaging*, edited by N. Paragios, J. Duncan, and N. Ayache, Spinger Verlag, Spring 2015.
2. C. Xu, **X. Han**, and J. L. Prince. Gradient Vector Flow Deformable Models. In *Handbook of Medical Image Processing and Analysis*, edited by I. Bankman, 2nd Edition. Academic Press, Dec. 2008.
3. **X. Han**, C. Xu, and J. L. Prince. Topology preserving geometric deformable model for brain reconstruction. In *Geometric Level Set Methods in Imaging, Vision and Graphics*, edited by S. Osher and N. Paragios. Springer Verlag, 2003.

Conference Articles (* indicates corresponding author):

1. J. Ye, Y. He, Y. Zhou, K. Xiao, Y.J. Liu, W. Yang, **X. Han***. PrimitiveAnything: Human-Crafted 3D Primitive Assembly Generation with Auto-Regressive Transformer. In SIGGRAPH 2025 Conference, 2025.

2. F. Shen, H. Ye, S. Liu, J. Zhang, C. Wang, **X. Han**, Y. Wei. Boosting Consistency in Story Visualization with Rich-contextual Conditional Diffusion Models. In AAAI 2025 Conference, 6785–6794, 2025.
3. Y. He, Y. Zhou, W. Zhao, Z. Wu, K. Xiao, W. Yang, Y.J. Liu, **X. Han**. Stdgen: Semantic-decomposed 3D Character Generation from Single Images. In CVPR 2025 Conference, 26345–26355, 2025.
4. K. Tian, Y. Guan, J. Xiang, J. Zhang, **X. Han**, W. Yang. Towards Real-Time Neural Video Codec for Cross-Platform Application Using Calibration Information. In ACM Multimedia Conference, 2023.
5. Y. Lv, J. Xiang, J. Zhang, W. Yang, **X. Han**, W. Yang. Dynamic Low-Rank Instance Adaptation for Universal Neural Image Compression. In ACM Multimedia Conference, 2023.
6. B. Zhao, J. Zhang, D. Ye, J. Cao, **X. Han**, Q. Fu, W. Yang. RLogist: Fast Observation Strategy on Whole-slide Images with Deep Reinforement Learning. In AAAI 2023, 3570–3578, 2023.
7. X. Wang, J. Xiang, J. Zhang, S. Yang, Z. Yang, M. Wang, J. Zhang, W. Yang, J. Huang, **X. Han**. SCL-WC: Cross-Slide Contrastive Learning for Weakly-Supervised Whole-Slice Image Classification. In NeurIPS 2022, 18009–18021, 2022.
8. Y. Guan, J. Zhang, K. Tian, S. Tang, P. Dong, J. Xiang, W. Yang, J. Huang, Y. Zhang, **X. Han***. Node-aligned Graph Convolutional Network for Whole-slide Image Representation and Classification. In CVPR 2022, 18813–18823, 2022.
9. S. Yang, J. Zhang, J. Huang, BC Lovell, **X. Han***. Minimizing Labeling Cost for Nuclei Instance Segmentation and Classification with Cross-Domain Images and Weak Labels. In AAAI 2021, 35(1):697–705, 2021.
10. Z. Chen, J. Zhang, S. Che, J. Huang, **X. Han***, Y. Yuan. Diagnose Like A Pathologist: Weakly-supervised Pathologist-Tree Network for Slide-Level Immunohistochemical Scoring. In AAAI 2021, 35:47–54, 2021.
11. X. Wang, S. Yang, J. Zhang, M. Wang, J. Zhang, J. Huang, W. Yang, **X. Han**. TransPath: Transformer-based Self-supervised Learning for Histopathological Image Classification. In MICCAI 2021, 2021.
12. H. Shen, K. Tian, P. Dong, J. Zhang, K. Yan, S. Che, J. Yao, P. Luo, **X. Han***. Deep Active Learning for Breast Cancer Segmentation on Immunohistochemistry Images. In MICCAI 2020, 2020.
13. K. Tian, J. Zhang, H. Shen, K. Yan, P. Dong, J. Yao, S. Che, P. Luo, **X. Han***. Weakly-supervised Nucleus Segmentation Based on Point Annotations: A Coarse-to-Fine Self-Stimulated Learning Strategy. In MICCAI 2020, 2020.
14. Y. Zhang, H. Chen, Y. Wei, P. Zhao, J. Cao, X. Fan, X. Lou, H. Liu, J. Hou, **X. Han**, J. Yao, Q. Wu, M. Tan, J. Huang. From Whole Slide Imaging to Microscopy: Deep Microscopy Adaptation Network fro Histopathology Cancer Image Classification. In MICCAI 2019, 2019.
15. H. Chen, **X. Han**, X. Fan, X. Lou, H. Liu, J. Huang, J. Yao. Rectified cross-entropy and upper transition loss for weakly supervised whole slide image classifier. In MICCAI 2019, 2019.
16. N. Zhou, D. Cai, **X. Han**, J. Yao. Enhanced cycle-consistent generative adversarial network for color normalization of H&E Stained Images. In MICCAI 2019, 2019.
17. Y. Zhou and **X. Han**. Auto-contouring the prostate for online adaptive radiotherapy. In STMI 2014: Second International Workshop on Sparsity Techniques in Medical Imaging, Boston, USA, Sept. 2014.
18. **X. Han**. Learning-boosted label fusion for multi-atlas auto-segmentation. In MICCAI 2013: Machine Learning in Medical Imaging Workshop, Nagoya, Japan, Sept. 2013.
19. **X. Han**. Feature-constrained nonlinear registration of lung CT images. In MICCAI 2010: Evaluation of Methods for Pulmonary Image Registration Workshop (EMPIRE10), Beijing, China, Sept. 2010.
20. **X. Han**, L. Hibbard, N. O'Connell, and V. Willcut. Automatic segmentation of parotids in head and neck CT images using multi-atlas fusion. In MICCAI 2010: 3D Segmentation Challenge for Clinical Applications, Beijing, China, Sept. 2010.
21. **X. Han**, L. Hibbard, and V. Willcut. An efficient inverse-consistent diffeomorphic image registration method for prostate adaptive radiotherapy. In MICCAI 2010: Prostate Cancer Imaging Workshop, Beijing, China, Sept. 2010.
22. **X. Han**, L. Hibbard, N. O'Connell, and V. Willcut. Automatic Segmentation of Head and Neck CT Images by GPU-accelerated Multi-atlas Fusion. In MICCAI 2009: 3D Segmentation Challenge for Clinical Applications Workshop, London, UK, Sept. 24, 2009.

23. **X. Han**, L. Hibbard, and V. Willcut. GPU-accelerated, gradient-free MI deformable registration for atlas-based MR brain image segmentation. In *IEEE Computer Society Workshop on Mathematical Methods in Biomedical Image Analysis* (MMBIA 2009), Miami, June 20, 2009.
24. **X. Han**, M. Hoogeman, P. C. Levendag, L. Hibbard, D. N. Teguh, P. Voet, A. C. Cowen, and T. K. Wolf. Atlas-based auto-segmentation of head and neck CT images. In *11th Intl. Conf. Medical Image Computing and Computer Assisted Intervention* (MICCAI 2008), New York, Sept. 6-10, 2008.
25. Y. Bai, **X. Han**, and J.L. Prince. Octree grid topology-preserving geometric deformable model for three-dimensional medical image segmentation. In *Information Processing in Medical Imaging 2007* (IPMI 2007), The Netherlands, July 2007. (**Acceptance rate:** $< 33\%$)
26. Y. Bai, **X. Han**, and J.L. Prince. Topology-preserving geometric deformable model on adaptive quadtree grid. In *IEEE Conf. on Comp. Vis. Patt. Recog.* (CVPR 2007), Minneapolis, June 2007. (**Acceptance rate:** $< 30\%$)
27. **X. Han**, L. Hibbard, and S. Brame. A morphing active surface model for automated recontouring in 4D radiotherapy. In *SPIE Conf. Medical Imaging*, San Diego, 2007.
28. P. Yu, **X. Han**, F. Segonne, R. Buckner, R. Pienaar, E. Grant, P. Golland, and B. Fischl. Cortical surface shape analysis based on spherical wavelet transformation. In *IEEE Workshop on Math. Methods Biomed. Image Anal. (MMBIA)*, New York, 2006.
29. Y. Bai, **X. Han**, and J.L. Prince. Topology-preserving isosurface simplification. In *IEEE Workshop on Math. Methods Biomed. Image Anal. (MMBIA)*, New York, 2006.
30. P. Yu, **X. Han**, F. Segonne, A. Liu, R. Poldrack, P. Golland, and B. Fischl. Shape-based discrimination and classification of cortical surfaces. In *18th Int. Conf. Pattern Recognition (ICPR 2006)*, Hong Kong, 2006.
31. Y. Bai, **X. Han**, D. L. Pham, and J.L. Prince. Super-resolved multi-channel fuzzy segmentation of MR brain images. In *SPIE Conf. Medical Imaging*, San Diego, 2005.
32. Y. Bai, **X. Han**, and J. L. Prince. Super-resolution reconstruction of MR brain images. In *Proc. 38th Annual Conf. Info. Sci. Syst. (CISS'04)*, pages I:1358–1363, Baltimore, 2004.
33. **X. Han**, C. Xu, and J. L. Prince. A 2D moving grid geometric deformable model. In *Proc. IEEE Conf. on Comp. Vis. Patt. Recog. (CVPR)*, pages I:153–160, Madison, Wisconsin, 2003.
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