Hong-Jun Yoon, Ph.D.

Research Scientist, Data Science Computational Sciences and Engineering Division (CSED) Oak Ridge National Laboratory (ORNL) Tel: (865) 241-2626

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EDUCATION:

- Ph.D., Electrical and Computer Engineering (2004-2011) University of Pittsburgh
- M.S., Electrical and Computer Engineering (1997-1999) University of Wisconsin-Milwaukee
- M.S., Electronics Engineering (1995-1997) Soongsil University, Seoul, South Korea

RESEARCH ACHIEVEMENTS AND COMPETENCIES:

Machine Learning

- Machine Learning-based Digital Pathology Image Comprehension, Whole Slide Imaging
- Machine Learning-based Natural Language Processing
- Large Language Models for Biomedical and Health Science
- Multimodal data analysis and classification
- Privacy-preserving AI/ML model training and knowledge transfer

Health Data Analytics

- Cyber informatics-based cancer epidemiology studies
- Information extraction from cancer pathology reports

Interagency Biomedical Research

- Joint Design of Advanced Computing Solutions for Cancer (JDACS4C)
- Exascale Computing Project Cancer distributed learning environment (CANDLE)
- National Childhood Cancer Registry (NCCR)

Eye Tracking Apparatus

- Eye tracking data collection from multi-plane medical displays
- Analysis of eye gaze with Hidden Markov Model and 1-D Convolutional Neural Networks
- Personalized gaze pattern analysis and classification
- Observer performance evaluation and decision support algorithm development

Software Development Skills

- Scalable AI/ML training on Leadership-class Supercomputers
- Programming with Accelerators CUDA and OpenCL
- Deep Learning platforms Keras/TensorFlow and Torch/PyTorch
- Programming C/C++, Java, Python, Objective-C
- OpenGL 3-D graphics rendering

RESEARCH EXPERIENCES:

Staff Scientist, Oak Ridge National Laboratory, 2015-Present

- Joint Design of Advanced Computing Solutions for Cancer (JDACS4C)
- Exascale Computing Project Cancer distributed learning environment (CANDLE)
- National Childhood Cancer Registry (NCCR)

Postdoctoral Associate, Oak Ridge National Laboratory, 2012-2015

- Cyber-Informatics-based Cancer Epidemiology and Social/Environmental Determinants of Health

Systems Programmer IV, University of Pittsburgh Medical Center, 2003-2012

- Statistical analysis of observer performance

SCHOLARLY INDICES:

Database	Author ID	Documents	Citations	h-Index	Citations since 2018	h-Index since 2018
Google Scholar	BrovQssAAAAJ	94	1408	20	998	16

PUBLICATIONS:

Peer-Reviewed Journal Articles

De Angeli, Kevin, Shang Gao, Andrew Blanchard, Eric B. Durbin, Xiao-Cheng Wu, Antoinette Stroup, Jennifer Doherty et al. "Using ensembles and distillation to optimize the deployment of deep learning models for the classification of electronic cancer pathology reports." JAMIA open 5, no. 3 (2022): ooac075.

Blanchard, Andrew E., Shang Gao, Hong-Jun Yoon, J. Blair Christian, Eric B. Durbin, Xiao-Cheng Wu, Antoinette Stroup et al. "A Keyword-Enhanced Approach to Handle Class Imbalance in Clinical Text Classification." IEEE Journal of Biomedical and Health Informatics 26, no. 6 (2022): 2796-2803.

De Angeli, Kevin, Shang Gao, Ioana Danciu, Eric B. Durbin, Xiao-Cheng Wu, Antoinette Stroup, Jennifer Doherty et al. "Class imbalance in out-of-distribution datasets: Improving the robustness of the TextCNN for the classification of rare cancer types." Journal of Biomedical Informatics 125 (2022): 103957.

Yoon, Hong-Jun, Alina Peluso, Eric B. Durbin, Xiao-Cheng Wu, Antoinette Stroup, Jennifer Doherty, Stephen Schwartz, Charles Wiggins, Linda Coyle, and Lynne Penberthy. "Automatic information extraction from childhood cancer pathology reports." JAMIA open 5, no. 2 (2022): ooac049.

Yoon, Hong-Jun, Christopher Stanley, J. Blair Christian, Hilda B. Klasky, Andrew E. Blanchard, Eric B. Durbin, Xiao-Cheng Wu et al. "Optimal vocabulary selection approaches for privacy-preserving deep NLP model training for information extraction and cancer epidemiology." Cancer Biomarkers 33, no. 2 (2022): 185-198.

Gao, Shang, Mohammed Alawad, Michael Todd Young, John Gounley, Noah Schaefferkoetter, Hong-Jun Yoon, Xiao-Cheng Wu et al. "Limitations of Transformers on Clinical Text Classification." IEEE journal of biomedical and health informatics (2021).

De Angeli, Kevin, Shang Gao, Mohammed Alawad, Hong-Jun Yoon, Noah Schaefferkoetter, Xiao-Cheng Wu, Eric B. Durbin et al. "Deep active learning for classifying cancer pathology reports." BMC bioinformatics 22, no. 1 (2021): 1-25.

Yoon, Hong-Jun, Hilda B. Klasky, John P. Gounley, Mohammed Alawad, Shang Gao, Eric B. Durbin, Xiao-Cheng Wu et al. "Accelerated training of bootstrap aggregation-based deep information extraction systems from cancer pathology reports." Journal of Biomedical Informatics 110 (2020): 103564.

Alawad, Mohammed, Shang Gao, John X. Qiu, Hong Jun Yoon, J. Blair Christian, Lynne Penberthy, Brent Mumphrey, Xiao-Cheng Wu, Linda Coyle, and Georgia Tourassi. "Automatic extraction of cancer registry reportable information from free-text pathology reports using multitask convolutional neural networks." Journal of the American Medical Informatics Association 27, no. 1 (2020): 89-98.

Gao, Shang, John X. Qiu, Mohammed Alawad, Jacob D. Hinkle, Noah Schaefferkoetter, Hong-Jun Yoon, Blair Christian et al. "Classifying cancer pathology reports with hierarchical self-attention networks." Artificial Intelligence in Medicine 101 (2019): 101726.

Alawad, Mohammed, Shang Gao, John X. Qiu, Hong-Jun Yoon, J. Blair Christian, Lynne Penberthy, Brent Mumphrey, Xiao-Cheng Wu, Linda Coyle, and Georgia Tourassi. "Automatic extraction of cancer registry reportable information from free-text pathology reports using multitask convolutional neural networks." Journal of the American Medical Informatics Association 27, no. 1 (2019): 89-98.

Qiu, John X., Hong-Jun Yoon, Kshitij Srivastava, Thomas P. Watson, J. Blair Christian, Arvind Ramanathan, Xiao C. Wu, Paul A. Fearn, and Georgia D. Tourassi. "Scalable deep text comprehension for Cancer surveillance on high-performance computing." BMC bioinformatics 19, no. 18 (2018): 488.

Yoon, Hong-Jun, Folami Alamudun, Kathy Hudson, Garnetta Morin-Ducote, and Georgia Tourassi. "Deep Gaze Velocity Analysis During Mammographic Reading for Biometric Identification of Radiologists." Journal of Human Performance in Extreme Environments 14, no. 1 (2018): 3.

Yoon, Hong-Jun, and Georgia Tourassi. "Investigating Sociodemographic Disparities in Cancer Risk Using Web-Based Informatics." Journal of Human Performance in Extreme Environments 14, no. 1 (2018): 2.

Alamudun, Folami, Paige Paulus, Hong-Jun Yoon, and Georgia Tourassi. "Modeling sequential context effects in diagnostic interpretation of screening mammograms." Journal of Medical Imaging 5, no. 3 (2018): 031408.

Alamudun, Folami T., Tracy Hammond, Hong-Jun Yoon, and Georgia D. Tourassi. "Geometry and Gesture-Based Features from Saccadic Eye-Movement as a Biometric in Radiology." In International Conference on Augmented Cognition, pp. 123-138. Springer, Cham, 2017.

Gao, Shang, Michael T. Young, John X. Qiu, Hong-Jun Yoon, James B. Christian, Paul A. Fearn, Georgia D. Tourassi, and Arvind Ramanthan. "Hierarchical attention networks for information extraction from cancer pathology reports." Journal of the American Medical Informatics Association (2017).

Alamudun, Folami, Hong-Jun Yoon, Kathleen B. Hudson, Garnetta Morin-Ducote, Tracy Hammond, and Georgia D. Tourassi. "Fractal analysis of visual search activity for mass detection during mammographic screening." Medical physics 44, no. 3 (2017): 832-846.

Qiu, John, Hong-Jun Yoon, Paul A. Fearn, and Georgia D. Tourassi. "Deep Learning for Automated Extraction of Primary Sites from Cancer Pathology Reports." IEEE Journal of Biomedical and Health Informatics (2017).

Tourassi, Georgia, Hong-Jun Yoon, and Songhua Xu. "A novel web informatics approach for automated surveillance of cancer mortality trends." Journal of biomedical informatics 61 (2016): 110-118.

Tourassi, Georgia, Hong-Jun Yoon, Songhua Xu, and Xuesong Han. "The utility of web mining for epidemiological research: studying the association between parity and cancer risk." Journal of the American Medical Informatics Association 23, no. 3 (2015): 588-595.

Xu, Songhua, Hong-Jun Yoon, and Georgia Tourassi. "A user-oriented web crawler for selectively acquiring online content in e-health research." Bioinformatics 30, no. 1 (2013): 104-114.

Tourassi, Georgia, Hong-Jun Yoon, Songhua Xu, Garnetta Morin-Ducote, and Kathy Hudson. "Comparative Analysis of Data Collection Methods for Individualized Modeling of Radiologists' Visual Similarity Judgments in Mammograms." Academic radiology 20, no. 11 (2013): 1371-1380.

Zanca, Federica, Stephen L. Hillis, Filip Claus, Chantal Van Ongeval, Valerie Celis, Veerle Provoost, Hong-Jun Yoon, and Hilde Bosmans. "Correlation of free-response and receiver-operating-characteristic area-under-the-curve estimates: Results from independently conducted FROC/ROC studies in mammography." Medical physics 39, no. 10 (2012): 5917-5929.

Chakraborty, Dev P., Hong-Jun Yoon, and Claudia Mello-Thoms. "Application of threshold-bias independent analysis to eye-tracking and FROC data." Academic radiology 19, no. 12 (2012): 1474-1483.

Chakraborty, D. P., Hong-Jun Yoon, and Claudia Mello-Thoms. "Inverse dependence of search and classification performances in lesion localization tasks." In Medical Imaging 2012: Image Perception, Observer Performance, and Technology Assessment, vol. 8318, p. 83180H. International Society for Optics and Photonics, 2012.

Veltri, Robert W., Christhunesa Christudass, Jonathan I. Epstein, Sahirzeeshan Ali, Hong-Jun Yoon, Ching-Chung Li, and Anant Madabhushi. "Computer-assisted Gleason grading of prostate cancer: Two novel approaches using nuclear shape and texture feature to classify pathologic Gleason grade patterns 3 and 4." (2012): 4061-4061.

Chakraborty, D. P., and Hong-Jun Yoon. "JAFROC analysis revisited: figure-of-merit considerations for human observer studies." In Proc SPIE, vol. 7263, p. 72630T. 2009.

Chakraborty, D. P., and Hong-Jun Yoon. "Operating characteristics predicted by models for diagnostic tasks involving lesion localization." Medical physics 35, no. 2 (2008): 435-445.

Chakraborty, D. P., and Hong-Jun Yoon. "Investigation of methods for analyzing location specific observer performance data." In Proc. of SPIE Vol, vol. 6917, pp. 69170C-1. 2008.

Hong-Jun Yoon, Bin Zheng, Berkman Sahiner, and Dev P. Chakraborty. "Evaluating computer-aided detection algorithms." Medical physics 34, no. 6 (2007): 2024-2038.

Chakraborty, Dev, Hong-Jun Yoon, and Claudia Mello-Thoms. "Spatial localization accuracy of radiologists in free-response studies: inferring perceptual FROC curves from mark-rating data." Academic radiology 14, no. 1 (2007): 4-18

Yu, David C., James C. Cummins, Zhudin Wang, Hong-Jun Yoon, and Ljubomir A. Kojovic. "Correction of current transformer distorted secondary currents due to saturation using artificial neural networks." IEEE Transactions on Power Delivery 16, no. 2 (2001): 189-194.

Conference Articles

Zhao, Huanhuan, Haihua Chen, and Hong-Jun Yoon. "Enhancing Text Classification Models with Generative Al-aided Data Augmentation." In *2023 IEEE International Conference On Artificial Intelligence Testing (AITest)*, pp. 138-145. IEEE, 2023.

Tsaris, Aristeidis, Josh Romero, Thorsten Kurth, Jacob Hinkle, Hong-Jun Yoon, Feiyi Wang, Sajal Dash, and Georgia Tourassi. "Scaling Resolution of Gigapixel Whole Slide Images Using Spatial Decomposition on Convolutional Neural Networks." In *Proceedings of the Platform for Advanced Scientific Computing Conference*, pp. 1-11. 2023.

Saunders, Adam, Sajal Dash, Aristeidis Tsaris, and Hong-Jun Yoon. "A comparison of histopathology imaging comprehension algorithms based on multiple instance learning." In *Medical Imaging 2023: Digital and Computational Pathology*, vol. 12471, pp. 424-432. SPIE, 2023.

Alamudun, Folami, Jacob Hinkle, Sajal Dash, Benjamín Hernández, Aristeidis Tsaris, and Hong-Jun Yoon. "Distilling Knowledge from Ensembles of Cluster-Constrained-Attention Multiple-Instance Learners for Whole Slide Image Classification." In 2022 IEEE International Conference on Big Data (Big Data), pp. 3393-3397. IEEE, 2022.

Dash, Sajal, Benjamín Hernández, Aristeidis Tsaris, Folami T. Alamudun, Hong-Jun Yoon, and Feivi Wang. "A Scalable Pipeline for Gigapixel Whole Slide Imaging Analysis on Leadership Class HPC Systems." In 2022 IEEE International Parallel and Distributed Processing Symposium Workshops (IPDPSW), pp. 1266-1274. IEEE, 2022.

Cho, Priscilla, Sajal Dash, Aristeides Tsaris, and Hong-Jun Yoon. "Image transformers for classifying acute lymphoblastic leukemia." In Medical Imaging 2022: Computer-Aided Diagnosis, vol. 12033, pp. 633-639. SPIE, 2022.

Yoginath, Srikanth, Mathieu Doucet, Debsindhu Bhowmik, David Heise, Folami Alamudun, Hong-Jun Yoon, and Christopher Stanley. "Secure Collaborative Environment for Seamless Sharing of Scientific Knowledge." In Smoky Mountains Computational Sciences and Engineering Conference, pp. 139-156. Springer, Cham, 2021.

Cho, Priscilla, and Hong-Jun Yoon. "Evaluation of U-net-based image segmentation model to digital mammography." In Medical Imaging 2021: Image Processing, vol. 11596, p. 1159626. International Society for Optics and Photonics, 2021.

Yoon, Hong-Jun, Hilda B. Klasky, Eric B. Durbin, Xiao-Cheng Wu, Antoinette Stroup, Jennifer Doherty, Linda Coyle et al. "Privacy-Preserving Knowledge Transfer with Bootstrap Aggregation of Teacher Ensembles." In Heterogeneous Data Management, Polystores, and Analytics for Healthcare, pp. 87-99. Springer, Cham, 2020.

Alawad, Mohammed, Hong-Jun Yoon, Shang Gao, Brent Mumphrey, Xiao-Cheng Wu, Eric B. Durbin, Jong Cheol Jeong et al. "Privacy-Preserving Deep Learning NLP Models for Cancer Registries." IEEE Transactions on Emerging Topics in Computing (2020).

Michael, Peter F., and Hong-Jun Yoon. "Survey of image denoising methods for medical image classification." In Medical Imaging 2020: Computer-Aided Diagnosis, vol. 11314, p. 113143R. International Society for Optics and Photonics, 2020.

Yoon, Hong-Jun, John Gounley, M. Todd Young, and Georgia Tourassi. "Information Extraction from Cancer Pathology Reports with Graph Convolution Networks for Natural Language Texts." In 2019 IEEE International Conference on Big Data (Big Data), pp. 4561-4564. IEEE, 2019.

Agrawal, Devanshu, Hong-Jun Yoon, Georgia Tourassi, and Jacob D. Hinkle. "Computer-aided detection using non-convolutional neural network Gaussian processes." In Medical Imaging 2019: Computer-Aided Diagnosis, vol. 10950, p. 109503N. International Society for Optics and Photonics, 2019.

Dubey, Abhishek K., Hong-Jun Yoon, and Georgia D. Tourassi. "Inverse Regression for Extraction of Tumor Site from Cancer Pathology Reports." In 2019 IEEE EMBS International Conference on Biomedical & Health Informatics (BHI), pp. 1-4. IEEE, 2019.

Qiu, John X., Shang Gao, Mohammed Alawad, Noah Schaefferkoetter, Folami Alamudun, Hong-Jun Yoon, Xiao-Cheng Wu, and Georgia Tourassi. "Semi-Supervised Information Extraction for Cancer Pathology Reports." In 2019 IEEE EMBS International Conference on Biomedical & Health Informatics (BHI), pp. 1-4. IEEE, 2019.

Yoon, Hong-Jun, John Gounley, Shang Gao, Mohammed Alawad, Arvind Ramanathan, and Georgia Tourassi. "Model-based Hyperparameter Optimization of Convolutional Neural Networks for Information Extraction from Cancer Pathology Reports on HPC." In 2019 IEEE EMBS International Conference on Biomedical & Health Informatics (BHI), pp. 1-4. IEEE, 2019.

Alawad, Mohammed, Shang Gao, John Qiu, Noah Schaefferkoetter, Jacob D. Hinkle, Hong-Jun Yoon, J. Blair Christian et al. "Deep Transfer Learning Across Cancer Registries for Information Extraction from Pathology Reports." In 2019 IEEE EMBS International Conference on Biomedical & Health Informatics (BHI), pp. 1-4. IEEE, 2019.

Yoon, Hong-Jun, John X. Qiu, J. Blair Christian, Jacob Hinkle, Folami Alamudun, and Georgia Tourassi. "Selective Information Extraction Strategies for Cancer Pathology Reports with Convolutional Neural Networks." In INNS Big Data and Deep Learning conference, pp. 89-98. Springer, Cham, 2019.

Yoon, Hong-Jun, Arvind Ramanathan, Folami T. Alamudun, and Georgia Tourassi. Deep radiogenomics for predicting clinical phenotypes in invasive breast cancer. Oak Ridge National Lab.(ORNL), Oak Ridge, TN (United States), 2018.

Alawad, Mohammed, Hong-Jun Yoon, and Georgia D. Tourassi. "Coarse-to-fine multi-task training of convolutional neural networks for automated information extraction from cancer pathology reports." In Biomedical & Health Informatics (BHI), 2018 IEEE EMBS International Conference on, pp. 218-221. IEEE, 2018.

Alawad, Mohammed, Hong-Jun Yoon, and Georgia Tourassi. "Energy efficient stochastic-based deep spiking neural networks for sparse datasets." In Big Data (Big Data), 2017 IEEE International Conference on, pp. 311-318. IEEE, 2017.

Yoon, Hong-Jun, Larry Roberts, and Georgia Tourassi. "Automated histologic grading from free-text pathology reports using graph-of-words features and machine learning." In Biomedical & Health Informatics (BHI), 2017 IEEE EMBS International Conference on, pp. 369-372. IEEE, 2017.

Yoon, Hong-Jun, Arvind Ramanathan, and Georgia Tourassi. "Multi-task Deep Neural Networks for Automated Extraction of Primary Site and Laterality Information from Cancer Pathology Reports." In INNS Conference on Big Data, pp. 195-204. Springer International Publishing, 2016.

Yoon, Hong-Jun, and Georgia Tourassi. "Investigating the association between sociodemographic factors and lung cancer risk using cyber informatics." In Biomedical and Health Informatics (BHI), 2016 IEEE-EMBS International Conference on, pp. 557-560. IEEE, 2016.

Yoon, Hong-Jun, Songhua Xu, and Georgia Tourassi. "Predicting lung cancer incidence from air pollution exposures using shapelet-based time series analysis." In Biomedical and Health Informatics (BHI), 2016 IEEE-EMBS International Conference on, pp. 565-568. IEEE, 2016.

Alamudun, Folami T., Hong-Jun Yoon, Kathy Hudson, Garnetta Morin-Ducote, and Georgia Tourassi. "Fractal analysis of radiologists' visual scanning pattern in screening mammography." In SPIE Medical Imaging, pp. 94160T-94160T. International Society for Optics and Photonics, 2015.

Yoon, Hong-Jun, Tandy R. Carmichael, and Georgia Tourassi. "Temporal stability of visual search-driven biometrics." In SPIE Medical Imaging, pp. 94160U-94160U. International Society for Optics and Photonics, 2015.

Yoon, Hong-Jun, Georgia Tourassi, and Songhua Xu. "Residential Mobility and Lung Cancer Risk: Data-Driven Exploration Using Internet Sources." In International Conference on Social Computing, Behavioral-Cultural Modeling, and Prediction, pp. 464-469. Springer, Cham, 2015.

Yoon, Hong-Jun, and Georgia Tourassi. "Analysis of online social networks to understand information sharing behaviors through social cognitive theory." In Biomedical Science and Engineering Center Conference (BSEC), 2014 Annual Oak Ridge National Laboratory, pp. 1-4. IEEE, 2014.

Liu, Yang, Songhua Xu, Hong-Jun Yoon, and Georgia Tourassi. "Extracting patient demographics and personal medical information from online health forums." In AMIA Annual Symposium Proceedings, vol. 2014, p. 1825. American Medical Informatics Association, 2014.

Yoon, Hong-Jun, Tandy R. Carmichael, and Georgia Tourassi. "Gaze as a biometric." In Proc. of SPIE Vol, vol. 9037, pp. 903707-1. 2014.

Yoon, Hong-Jun, Songhua Xu, and Georgia Tourassi. "A cost-effective, case-control study on the association between breast cancer and pregnancy through web mining." In Biomedical Sciences and Engineering Conference (BSEC), 2013, pp. 1-4. IEEE, 2013.

Voisin, Sophie, Hong-Jun Yoon, Georgia Tourassi, Garnetta Morin-Ducote, and Kathleen Hudson. "Personalized modeling of human gaze: Exploratory investigation on mammogram readings." In Biomedical Sciences and Engineering Conference (BSEC), 2013, pp. 1-4. IEEE, 2013.

Yoon, Hong-Jun, Ching-Chung Li, Christhunesa Christudass, Robert Veltri, Jonathan I. Epstein, and Zhen Zhang. "Cardinal multiridgelet-based prostate cancer histological image classification for Gleason grading." In Bioinformatics and Biomedicine (BIBM), 2011 IEEE International Conference on, pp. 315-320. IEEE, 2011.

Yoon, Hong-Jun, and Ching-Chung Li. "Multiridgelets for texture analysis." In Wavelet Applications in Industrial Processing VI, vol. 7248, p. 724803. International Society for Optics and Photonics, 2009.

Chakraborty, Dev P., and Hong-Jun Yoon. "A maximum likelihood method for estimating the parameters of a search model." In Biomedical Imaging: Nano to Macro, 2006. 3rd IEEE International Symposium on, pp. 1304-1307. IEEE, 2006.

Ornes, Chester J., Daniel J. Valentino, Hong-Jun Yoon, Jack I. Eisenman, and Jack Sklansky. "Search engine for remote database-aided interpretation of digitized mammograms." In Medical Imaging 2001: PACS and Integrated Medical Information Systems: Design and Evaluation, vol. 4323, pp. 132-138. International Society for Optics and Photonics, 2001.

Yu, D. C., J. C. Cummins, Z. Wang, Hong-Jun Yoon, L. A. Kojovic, and D. Stone. "Neural network for current transformer saturation correction." In Transmission and Distribution Conference, 1999 IEEE, vol. 1, pp. 441-446. IEEE, 1999.

PATENTS & INVENTION DISCLOSURES:

(ID201303080) Studying Breast Cancer and Pregnancy Association Through Web Mining, Songhua Xu, Georgia Tourassi, & Hong-Jun Yoon (05/16/2013)

(ID201303143) A Web Crawler for Acquiring Online Content in e-Health Research, Songhua Xu, Georgia Tourassi, & Hong-Jun Yoon (08/14/2013)

(ID201403249) Gaze as a Biometric, Georgia Tourassi, Sophie Voisin, Songhua Xu, & Hong-Jun Yoon (02/03/2014)

(ID201703968) Energy-Efficient Stochastic-Based Deep Spiking Neural Networks for Sparse Datasets, Hong-Jun Yoon, Mohammed Alawad, & Georgia Tourassi (8/15/2017)

HONORS, AWARDS:

2014 R&D 100 Award – "iSPM: Intelligent Software Suite for Personalized Modeling of Expert Opinions, Decisions, and Errors in Visual Examination Tasks"

2015 R&D 100 Finalist - "iCRAWL: A User-Oriented Intelligent Web Crawler"

GRADUATE AND UNDERGRADUATE STUDENT SUPERVISION:

Mentor for DOE-Sponsored Undergraduate Student Internships at ORNL

Tandy Carmichael (Tennessee Tech University – Summer 2013, 2014)

Kevin Vincent (California State University at Fullerton – Summer 2014)

Paul Hudson (University of Alabama at Huntsville – Summer 2016)

Edward Kim (El Camino College – Summer 2016)

Thomas Watson (University of Memphis – Summer 2017)

Cameron Kuchta (Beloit College – Summer 2018)

Thy Pham (Orange Coast College – Summer 2018)

Peter Michael (University of Washington – Summer 2019)

Priscilla Cho (Emory University – Summer 2020 and 2021)

Adam Saunders (University of Dayton – Summer 2022)

Jakob Speight (North Carolina State University – Summer 2023)

Mentor for DOE-Sponsored Graduate Student Internships at ORNL

Bruce Horton (Clark University – Summer 2014, 2015)

Folami Alamudun (A&M Texas University – Summer 2014 and 2015)

John Qiu (University of Tennessee at Knoxville – Summer 2016)

Yong Zhao (New Jersey Institute of Technology – Summer 2017 and 2018)

Jose Guadalupe Hernandez (Michigan State University – Summer 2021)