

NOEL C. F. CODELLA, PH.D.

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Synopsis

- Dr. Codella's expertise includes foundation models, multimodal learning, computer vision, medical imaging, biomedical engineering, biology, and physiology. In graduate school at Cornell University, Dr. Codella worked on cardiac MRI spanning imaging physics, image acquisition, reconstruction, and clinically grounded image analysis.
- At Microsoft, Dr. Codella serves as Principal Researcher, leading work in foundation models for computer vision and healthcare AI. This includes MedImageInsight, an open-source foundation model for general-domain medical imaging, as well as broader work in multimodal learning, transformers, and trustworthy evaluation.
- Publications include CVPR, ICCV, ECCV, ICLR, MICCAI, AAAI, Nature Medicine, Lancet Oncology, Lancet Digital Health, and Nature Machine Intelligence.
- Dr. Codella is co-founder / co-organizer of the International Skin Imaging Collaboration (ISIC) challenges on skin cancer classification, which have received over 114,000 total submissions from over 4,000 competitors and helped shape evaluation standards and clinical studies in dermatology AI.
- His work has emphasized not only high-performing AI systems, but also rigorous analyses of error characteristics, fairness, and clinical deployment risk. This work has been covered by major media outlets including CNN, MedGadget, CNBC, Forbes, and The Economist.
- According to his current Google Scholar profile and website, Dr. Codella has more than 24,000 citations and an h-index of 49.

Media Coverage

- **MedGadget:** Using Watson to Diagnose Skin Cancer: Interview with IBM Computer Vision Scientist, Noel Codella. <https://web.archive.org/web/20231209180022/https://www.medgadget.com/2017/06/using-watson-diagnose-skin-cancer-interview-ibm-computer-vision-scientist-noel-codella.html>
- **The Economist:** Huge "foundation models" are turbo-charging AI progress. <https://www.economist.com/science-and-technology/2022/06/11/huge-foundation-models-are-turbo-charging-ai-progress>
- **Forbes:** Microsoft Announces Numerous New AI Tools Dedicated To Healthcare. <https://www.forbes.com/sites/saibala/2024/10/10/microsoft-announces-numerous-new-ai-tools-dedicated-to-healthcare/>
- **CNBC:** Microsoft announces new AI tools to help ease workload for doctors and nurses. <https://www.cNBC.com/2024/10/10/microsoft-announces-new-health-care-ai-tools.html>
- **CNN:** IBM uses a smartphone to help diagnose skin cancer. <https://web.archive.org/web/20230929052141/https://money.cnn.com/2016/11/14/technology/ibm-skin-cancer-smartphone/index.html>
- **Mashable:** IBM's smart skin cancer detection tech is as accurate as expert dermatologists. <http://mashable.com/2016/11/15/ibm-research-melanoma-testing-with-phone-camera/>
- **ZDnet:** IBM's computer vision zeros in on identifying skin cancer. <http://www.zdnet.com/article/ibms-computer-vision-research-zeroes-in-on-identifying-skin-cancer/>
- **Medium:** Visual recognition could help detect skin cancer. <https://medium.com/cognitivebusiness/visual-recognition-could-help-detect-skin-cancer-6e3f3796f877>
- **VentureBeat:** Skin cancer meets its worst nightmare: IBM. <https://venturebeat.com/2014/12/17/skin-cancer-meets-its-worst-nightmare-ibm/>
- **IBM Press Release:** IBM Research Scientists Investigate Use of Cognitive Computing-Based Visual Analytics for Skin Cancer Image Analysis. <https://web.archive.org/web/20210509111147/http://www-03.ibm.com/press/us/en/pressrelease/45710.wss>

Skills & Abilities

RESEARCH

- Computer Vision, Machine Learning, Foundation Models, Multimodal / Vision-Language Learning, Transformers, Few-Shot Learning, Image Processing, Software Engineering, Signal Processing, MR Image Reconstruction (non-Cartesian Radial k-space), MR Pulse Sequence Design, MR Motion Compensation Techniques, Medical Image Analysis, Trustworthy AI, Fairness, Explainability

PROGRAMMING

- PyTorch, Keras/TensorFlow, Python, HuggingFace Transformers, Theano, Caffe, Torch, C++, C, Java, Shell Scripting, MATLAB, EPIC, Lisp, Visual Basic, SQL, CGI, SOAP, Assembly

LEADERSHIP

- Technical Coordinator for collaborations with Cornell University and Memorial Sloan-Kettering (2013 – 2020).
- International Skin Imaging Collaboration (ISIC) Melanoma Recognition Challenge Co-Organizer (2016 – 2025).
- Mentored research interns and collaborators across Microsoft, IBM Research AI, and IBM Research Africa.
- Area Chair: ICLR 2018, 2019, 2022 (Highlighted), 2023; ICPR 2022; NeurIPS 2022.
- Senior Program Committee: AAAI 2022.
- Associate Editor: IEEE Transactions on Multimedia (2021-2023); IEEE Journal of Biomedical and Health Informatics, Special Issue on Skin Image Analysis.

Work Experience

PRINCIPAL RESEARCHER | MICROSOFT | SEPT 2020 - PRESENT

- Research at the intersection of foundation models, multimodal learning, computer vision, and healthcare AI.
- Led work on MedImageInsight, an open-source foundation model for general-domain medical imaging spanning modalities such as X-ray, CT, MRI, dermoscopy, OCT, fundus photography, ultrasound, histopathology, and mammography.
- Contributed to large-scale vision and multimodal model development including Florence, CvT, DaViT, RegionCLIP, MS-CLIP, i-Code, streaming video models, and visual question answering.
- Developed approaches for fairness, evaluation, and clinically grounded deployment of medical AI systems.

RESEARCH STAFF MEMBER | IBM T.J. WATSON RESEARCH CENTER | OCT 2011 - SEPT 2020

- Machine learning applied to visual recognition and medical imaging.
- Deep Learning applied to visual analytics.
- Large-Scale Machine Learning on Hadoop (800 core cluster)
- Led work on cross-domain few-shot learning and co-organized the associated benchmark and challenge at CVPR 2020-2021.
- Led five years of public challenges on skin cancer classification across ISBI, MICCAI, and Kaggle, helping establish a widely used evaluation ecosystem in dermatology AI.
- Developed first melanoma recognition technology for dermoscopic photos to surpass the average accuracy of expert clinicians.

GUEST LECTURER: COMPUTER VISION | NYU TANDON SCHOOL OF ENGINEERING | SEPT 2016 – DEC 2016

- Guest lecturer for CS-GY-6643 Computer Vision. Topic: Medical Imaging.

ADJUNCT FACULTY | STEVENS INSTITUTE OF TECHNOLOGY | AUG 2014 – AUG 2016

- Taught CS541 Artificial Intelligence

POSTDOCTORAL RESEARCHER | IBM T.J. WATSON RESEARCH CENTER | DEC 2010 – OCT 2011

- Large-scale Multimedia Analytics. Projects included video event retrieval, satellite image classification, biometrics, social media event detection.

SOFTWARE ENGINEER | INFOVALUE, INC. | MAY 2004 – AUGUST 2004

- Worked on porting on-demand video servers and clients from Windows to Linux platforms. Also built a SOAP web-browser based server control panel.

Education

PH.D. | JULY 2005 - NOV 2010 | JOAN & SANFORD I. WEILL MEDICAL COLLEGE OF CORNELL UNIVERSITY

- Department of Physiology, Biophysics, and Systems Biology (PBSB)
- Developed and implemented software solutions for cardiac MRI image processing, image reconstruction, image acquisition, and cardiac electrophysiological modeling:
 - **Automated Left Ventricular Segmentation.** Enabled the additional diagnoses of diastolic dysfunction, as compared to manual analyses by expert cardiologists and radiologists.
 - **Self-Calibrating Parallel Image Reconstruction.** Enabled faster, higher quality MRI images.
 - **Free-Breathing Cardiac Cine Data Acquisition Strategies.** Improved comfort and reduced scanning time for patients during cardiac examinations.
 - **Cardiac Electrophysiology Modeling.** Designed and implemented the CardiacModeling.org open-source cardiac electrophysiological modeling framework.

M.ENG. | SEPT 2004 - MAY 2005 | CORNELL UNIVERSITY

- Department of Computer Science
 - Master's Thesis: Medical Imaging, Vascular Tracking
 - Minor Focus: System Security

B.S. | SEPT 2001 – MAY 2004 | COLUMBIA UNIVERSITY

- Department of Computer Science
 - Major Focus: Theory of Computation

Honors & Awards

- Image Analysis for Melanoma Detection

IBM OUTSTANDING TECHNICAL ACHIEVEMENT AWARD (2018)

- Image Analysis for Melanoma Detection

IBM EMINENCE AND EXCELLENCE AWARD (2018)

- Trustworthy AI

IBM OUTSTANDING RESEARCH ACCOMPLISHMENT AWARD (2019)

IBM RESEARCH IMAGE AWARD (2016)

- For significant contributions to IBM's public image through work on skin image analysis.

IBM INVENTION ACHIEVEMENT AWARDS (2016, 2014, 2013)

- First, second, and third plateaus, for multiple patenting filing activities.

IBM RESEARCH DIVISION AWARD (2013)

- For contributions to visual recognition technologies

IBM EMINENCE AND EXCELLENCE AWARD (2012)

- For efforts in organizing Greater New York Multimedia and Vision Workshop

IMAGECLEF MEDICAL MODALITY RECOGNITION CHALLENGE, 1ST PLACE (2013)

- For development of machine learning technologies that contributed to 1st place in ImageCLEF

HONOR GRADES IN GRADUATE CLASSES (2006 – 2007)

- Human Physiology
- Logic & Biological Experimental Design

CORNELL UNIVERSITY BITS ON OUR MIND (BOOM) BEST IN CATEGORY: BIOLOGICAL SCIENCE (2006)

- For development of robust vessel tracking algorithm

Community Service Work

IBM Research

- IBM Global Technology Outlook (GTO) Advocate for Department of Cognitive Computing (2017)
- IBM Employee Charitable Contribution Campaign (ECCC) Canvasser (2016)
- IBM Research Culture Club Member (2014-2017)
- IBM Research Perception Professional Interest Community (PIC) Seminar Coordinator (2014-2017)
- Department Seminar Co-Organizer: Intelligent Information Management Department, IBM T. J. Watson Research Center
- Assistant Teacher: Algorithms: IBM Family Science Saturdays

Professional

- Associate Editor: IEEE Transactions on Multimedia (2021-Present)
- Senior Program Committee: AAAI 2022
- Area Chair: ICLR 2023, ICLR 2022 (Highlighted), ICPR 2022, NeurIPS 2022
- Workshop Co-Founder / Co-Organizer: Learning with Limited Labels / L2ID (CVPR 2020-2021), Skin Image Analysis Workshop (CVPR 2019-2021; ECCV 2022; MICCAI 2023)
- Challenge Co-Founder / Co-Organizer: International Skin Imaging Collaboration (ISIC) challenges (ISBI 2016-2017; MICCAI 2018-2020)
- IEEE International Symposium on Biomedical Imaging (ISBI) Challenge Co-Organizer (2016-2017)
- Circulation: Cardiovascular Quality and Outcomes Reviewer (2017)
- Circulation: Cardiovascular Imaging Reviewer (2017)
- IEEE Transactions on Medical Imaging (TMI) Reviewer (2015-2016)
- IEEE Signal Processing Letters Reviewer (2015)
- IEEE Transactions on Image Processing (TIP) Reviewer (2012-2015)
- IEEE EMBC 2009 Reviewer (Biomedical Imaging & Image Processing).
- Technical Program Committee Member: 2nd ACM Multimedia Workshop on Geotagging and Applications
- Panel Chairman: 3rd Greater New York Area Multimedia and Vision Meeting
- Poster and Medical Imaging Session Chairman: 2nd Greater New York Area Multimedia and Vision Meeting

Community

- Graduate Student Executive Council Webmaster: Weill Cornell Medical College
- Housing Student Representative: Weill Cornell Medical College
- Physiology Department Student Representative

Select Publications

First Author Publications

- **Codella N**, Gu Y, Jain S, Lee HH, Ben Abacha A, et al. MedImageInsight: An Open-Source Embedding Model for General Domain Medical Imaging. arXiv / Microsoft Research, 2024. <https://arxiv.org/abs/2410.06542>
- **Codella N**, Nguyen Q, Pankanti S, Gutman D, Helba B, Halpern A, Smith J. Deep Learning Ensembles for Melanoma Recognition in Dermoscopy Images. IBM Journal of Research and Development, vol. 61, no. 4/5, 2017. Available: <https://arxiv.org/abs/1610.04662>
- **Codella N**, Moradi M, Matasar M, Syeda-Mahmood T, Smith J. Lymphoma diagnosis in histopathology using a multi-stage visual learning approach. SPIE Medical Imaging, 2016.
- **Codella N**, Cai J, Abedini M, Garnavi R, Halpern A, Smith J. Deep learning, sparse coding, and SVM for melanoma recognition in dermoscopy images. International Workshop on Machine Learning in Medical Imaging, 118-126, 2015.
- **Codella N**, Connel J, Pankanti S, Merler M, Smith J. Automated medical image modality recognition by fusion of visual and text information. International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI) 2014.
- *Abedini M, **Codella N**, Connell J, Garnavi R, Merler M, Pankanti S, Smith J. A generalized framework for medical image classification and recognition. IBM Journal of Research and Development 59 (2/3), 1: 1-1: 18, 2015. (* Alphabetical author ordering)
- Gutman D*, **Codella N***, Celebi E, Helba B, Marchetti M, Mishra N, Halpern A. Skin Lesion Analysis toward Melanoma Detection: A Challenge at the International Symposium on Biomedical Imaging (ISBI) 2016, hosted by the International Skin Imaging Collaboration (ISIC). arXiv preprint: 1605.01397, 2016. (* Contributed equally)
- **Codella N**, Hua G, et al. Large-Scale Video Event Classification Using Dynamic Temporal Pyramid Matching of Visual Semantics. ICIP 2013 (Oral Presentation).
- **Codella N**, Natsev A, et al. Video Event Detection Using Temporal Pyramids of Visual Semantics with Kernel Optimization and Model Subspace Boosting. ICME 2012 (Oral presentation).
- **Codella N**, Connell J, Ratha N, Weinsaft JW. Cardiac Anatomy as a Biometric. ICIP 2012 (Oral Presentation).
- **Codella N**, Spincemaille P, Prince M, Wang Y. A Radial Self-Calibrated (RASCAL) GRAPPA method using Weight Interpolation. NMR in biomedicine 24 (7), 844-854
- **Codella N**, Hua G, Natsev A, Smith JR. Towards Large Scale Land-cover Recognition of Satellite Images. ICICS 2011, Singapore, Dec 2011 (Oral Presentation).
- **Codella N**, Weinsaft JW, et al. Improved Left Ventricular Mass Quantification with Partial Voxel Interpolation – In-Vivo and Necropsy Validation of a Novel Cardiac MRI Segmentation Algorithm. Circulation: Cardiovascular Imaging 5 (1), 137-146
- **Codella N**, Cham MD, Wong R, Chu C, Prince MR, Wang Y, Weinsaft JW. Rapid and Accurate Left Ventricular Chamber Quantification using a Novel CMR Segmentation Algorithm – A Clinical Validation Study. JMRI, 2010. 31:845–853
- **Codella N**, Weinsaft JW, Cham MD, Janik M, Prince MR, Wang Yi. Left Ventricle: Automated Segmentation by Using Myocardial Effusion Threshold Reduction and Intravoxel Computation at MR Imaging. Radiology, 2008. Sept. 248(3):1004-12

Collaborative Publications

- Chen C, Liu M, **Codella N**, Li Y, Yuan L, Gurari D. Fully Authentic Visual Question Answering Dataset from Online Communities. ECCV 2024.
- Wang Z, Chen L, You H, Xu K, He Y, Li W, **Codella N**, Chang K-W, Chang S-F. Dataset Bias Mitigation in Multiple-Choice Visual Question Answering and Beyond. Findings of EMNLP 2023.
- Zhao Y, Luo C, Tang C, Chen D, **Codella N**, Zha Z-J. Streaming Video Model. CVPR 2023.
- Yang Z, Fang Y, Zhu C, Pryzant R, Chen D, Shi Y, Xu Y, Qian Y, Gao M, Chen Y-L, Lu L, Xie Y, Gmyr R, **Codella N**, Kanda N, Xiao B, Yuan L, Yoshioka T, Zeng M, Huang X. i-Code: An Integrative and Composable Multimodal Learning Framework. AAAI 2023.
- Pérez-García F, Sharma H, Bond-Taylor S, Bouzid K, Salvatelli V, Ilse M, Bannur S, Castro DC, Schwaighofer A, Lungren MP, Wetscherek M, **Codella NCF**, Hyland SL, Alvarez-Valle J, Oktay O. Exploring scalable medical image encoders beyond text supervision. Nature Machine Intelligence, 2025.
- Fay L, Delbrouck J-B, Küstner T, Yang B, **Codella NCF**, Lungren MP, Langlotz C, Gatidis S. Beyond the Prompt: Deploying Medical Foundation Models on Diverse Chest X-ray Populations. MIDL 2025.

- Kurtansky NR, Gillis MC, **Codella NCF**, D'Alessandro BM, Ge Z, Guitera P, Halpern AC, Kittler H, Malvey J, Liopyris K, Mar VJ, Martin LK, Maul LV, Navarini A, Rajeswaran T, Rajeswaran V, Reichman N, Soyer HP, Weber J, Yan S, Rotemberg V, Kose K. Automated triage of cancer-suspicious skin lesions with 3D total-body photography. *npj Digital Medicine*, 2025.
- Barata C, Rotemberg V, **Codella NCF**, Tschandl P, Rinner C, Akay BN, Apalla Z, Argenziano G, Halpern A, Lallas A, Longo C, Malvey J, Puig S, Rosendahl C, Soyer HP, Zalaudek I, Kittler H. A reinforcement learning model for AI-based decision support in skin cancer. *Nature Medicine*, 2023.
- Wu H, Xiao B, **Codella N**, Liu M, Dai X, Yuan L, Zhang L. Convolutional Vision Transformer (CvT). *ICCV 2021*.
- Wang X, Guo G, Merler M, **Codella N**, Rohith M, Smith J, Kambhmettu C. Leveraging multiple cues for recognizing family photos. *Image and Vision Computing*, vol. 58, pp. 61-75. 2017.
- Bashivan P, Rish I, Yeasin M, **Codella N**. Learning Representations from EEG with Deep Recurrent-Convolutional Neural Networks. *ICLR 2016*. Available: <https://arxiv.org/pdf/1511.06448.pdf>
- Smith J, Cao L, **Codella N**, Hill M, Merler M, Nguyen Q, Pring E, Uceda-Sosa R. Massive-scale learning of image and video semantic concepts. *IBM Journal of Research and Development*. Vol. 59, 2/3, pp 1-7. 2015
- Janik M, Cham MD, Ross M, Wang Yi, **Codella N**, Min JK, Prince MR, Manoushagian S, Okin PM, Devereux RB, Weinsaft JW. Effects of Papillary Muscles and Trabeculae on Left Ventricular Quantification: Increased Impact of Methodological Variability in Patients with Ventricular Hypertrophy. *Journal of Hypertension*, 2008. Aug. 26(8):1677-85
- Lee HY, **Codella N**, Cham M, Weinsaft JW, Prince MR, Wang Yi. Left ventricle segmentation using graph search on intensity and gradient and a priori knowledge (lvGIGA) for short axis cardiac magnetic resonance imaging. *JMRI*, 2008. Nov. 28(6):1393-1401
- Lee HY, **Codella N**, Cham M, Weinsaft JW, Wang Yi. Automatic Left Ventricle Segmentation using Iterative Thresholding and Active Contour Model with Adaptation (lvITHACA) on Short-Axis Cardiac MRI. *IEEE Trans Biomed Eng*. 2010 Apr;57(4):905-13
- Kawaji K, **Codella N**, Prince MR, Chu CW, Shakoor A, LaBounty TM, Min JK, Swaminathan R, Devereux RB, Wang Y, Weinsaft JW. Automated Segmentation of Routine Clinical Cardiac Magnetic Resonance Imaging for the Diagnosis of Left Ventricular Diastolic Function. *Circ Cardiovasc Imaging*, 2009 Nov;2(6):476-84
- Liu J, Spincemaille P, **Codella N**, Nguyen TD, Prince MR, Wang Y. Respiratory and Cardiac Self-Gated Free-Breathing Cardiac CINE Imaging with Multi-Echo 3D Hybrid Radial SSFP Acquisition. *MRM*, 2010 May;63(5):1230-7.
- Mendoza D, **Codella N**, Wang Y, Prince M, Sethi S, Manoushagian S, Kawaji K, Min J, LaBounty T, Devereux R, Weinsaft J. Impact of Left Ventricular Diastolic Dysfunction on post-Myocardial Infarction Volumetric Filling as Assessed by Automated Processing of Routine cine-CMR. *J Cardiovasc Magn Reson*. 2010 Jul 31;12:46
- Cao L, Chang SF, **Codella N**, Cotton C, Ellis E, Gong L, Hill M, Hua G, Kender J, Merler M, Mu Y, Natsev A, Smith JR. IBM Research and Columbia University TRECVID-2011 Multimedia Event Detection (MED) System. *NIST TRECVID Conference (2011)*.
- Cao L, Chang YC, **Codella N**, Merler M, Nguyen QB, Smith JR. IBM T.J. Watson Research Center, Multimedia Analytics: Modality Classification and Case-Based Retrieval tasks of ImageCLEF2012. *ImageCLEF Conference (2012)*
- Cao L, Chang SF, **Codella N**, Cotton C, Ellis D, Gong L, Hill M, Hua G, Kender J, Merler M, Mu Y, Smith JR, Yu FX. IBM Research and Columbia University TRECVID-2012 Multimedia Event Detection (MED), Multimedia Event Recounting (MER), and Semantic Indexing (SIN) Systems. *NIST TRECVID Conference (2012)*.
- Cao L, Gong L, Kender J, **Codella N**, Smith JR. Learning by Focusing: A new framework for concept recognition and feature selection. *ICME 2013*.

Conference Abstracts

- Noel Codella, Hae-Yeoun Lee, Dorinna Mendoza, Sonia Sethi, Shant Manoushagian, James Min, Richard B. Devereux, Jonathan Weinsaft. Improved Agreement between Echocardiography and MRI-Derived LV Mass Using Automated MRI Segmentation with Partial Voxel Computation. 21st Annual Scientific Sessions of the American Society of Echocardiography, 2010.
- Dorina Mendoza, Noel Codella, Sonia Sethi, Keigo Kawaji, Shant Manoushagian, Martin Prince, Richard Devereux, James Min, Matthew Cham, Yi Wang, Jonathan Weinsaft. Automated cine-CMR segmentation with LV-METRIC for volumetric assessment of presence and severity of left ventricular diastolic dysfunction. *Society for Cardiovascular Magnetic Resonance*, 2010.
- Noel Codella, Pascal Spincemaille, Martin Prince, Yi Wang. A Rapid Self-Calibrating Radial GRAPPA method using Kernel Coefficient Interpolation. *ISMRM 2010*.

- Noel Codella, Pascal Spincemaille, Jing Liu, Martin Prince, Yi Wang. Retrospective Self-Gated Free- Breathing Radial 3D Cine SSFP CMR using Self-Calibrated GRAPPA: A Feasibility Study. ISMRM 2010.
- Noel Codella, Pascal Spincemaille, Martin Prince, Yi Wang. A Rapid Self-Calibrating Radial GRAPPA method using Kernel Coefficient Interpolation. ISMRM Parallel Imaging Workshop, 2009.
- Noel Codella, Pascal Spincemaille, Jing Liu, Ludovic de Rochefort, Bryan Kressler, Martin Prince, Yi Wang. 3D Free-Breathing Radial Cine-SSFP Using a Retrospective Z-Center-of-Mass Self Navigator: A Feasibility Study. Proc. ISMRM 2009, 1806.
- Noel Codella, Matthew Cham, Christopher Chu, Keigo Kawaji, Kristen Healy, Martin Prince, Yi Wang, Jonathan Weinsaft. Rapid and Accurate Quantification of Left Ventricular Ejection Fraction using an Automated Segmentation Algorithm – A Clinical Validation Study. Proc. ISMRM 2009, 1900.
- Keigo Kawaji, Noel Codella, Christopher Chu, Richard Devereux, Martin Prince, Yi Wang, Jonathan Weinsaft. A Novel Method for Cine-CMR Automated Assessment of Left Ventricular Diastolic Dysfunction. Proc. ISMRM 2009, 650.
- Noel Codella, Matthew D Cham, Matthew Janik, Martin R Prince and Yi Wang, Jonathan W Weinsaft. Rapid Automated Quantification of Left Ventricular Ejection Fraction with LV-METRIC - a Novel Segmentation Algorithm. Proc. SCMR 2008, 540.
- Noel Codella, Jonathan W Weinsaft, Matthew D Cham, Matthew Janik, Martin R Prince and Yi Wang. Automated soft segmentation of the left ventricle using myocardial effusion threshold reduction and intravoxel computation (METRIC). Proc. SCMR 2008, 1124.
- Noel C. Codella, Jonathan W. Weinsaft, Matthew D. Cham, Martin A. Prince, Yi Wang. Automated Segmentation of the Left Ventricle Using Myocardial Effusion Threshold Reduction and Intravoxel Computation (METRIC) Proc. ISMRM 2008, 984.
- Noel C. Codella, Jonathan W. Weinsaft, Matthew D. Cham, Martin A. Prince, Yi Wang. Partial Voxel Segmentation of the Left Ventricle: Interpolating Blood Content of Voxels. Proc. ISMRM 2007, 3851.
- Noel C. Codella, Yi Wang, Ramin Zabih. Robust Vessel Path Tracking in Imperfect Volumetric Data. Proc ISMRM 2006, 1273.

Patents

- Biological Neuron to Electronic Computer Interface (US12001942B2 / Jun 2024)
- Training Transfer-Focused Models for Deep Learning (US11853877B2 / Dec 2023)
- Drug Delivery Device Having Controlled Delivery and Confirmation (US11052023B2 / Jul 2021)
- Automatic identification of food substance (US10528793 / Jan 2020)
- Viewpoint recognition in computer tomography images (US9652846 / May 2017)
- Determination of unique items based on generating descriptive vectors of users (US10664894 / May 2020)
- Surgical skin lesion removal (US10568695 / Feb 2020)
- Surface reflectance reduction in images using non-specular portion replacement (US10255674 / Apr 2019)
- Method and system for categorizing heart disease states (US20150317789 / Apr 11, 2016)
- Static Image Segmentation (US9311716 B2 / Apr 11, 2016)
- Image Segmentation Techniques (US9299145 B2 / Mar 29, 2016)
- Techniques for spatial semantic attribute matching for location identification (US9251434 B2 / Feb 2, 2016)
- Techniques for ground-level photo geolocation using digital elevation (US9165217 B2 / Oct 20, 2015)
- Unique Cardiovascular Measurements for Human Identification (US 9031288B2 / May 11, 2015)
- Social media event detection and content-based retrieval (US9002069 B2 / Apr 6, 2015)
- Method for segmenting objects in images (US 8369590B2 / Feb 5, 2013)