



Saeed Seyyedi

Postdoctoral Research Fellow, Radiology

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BIO

Dr. Saeed Seyyedi is a Data Scientist, AI and Deep Learning Specialist and Research Fellow in the Center for Artificial Intelligence in Medicine & Imaging (AIMI) at Stanford University. Dr. Seyyedi is a computer scientist and biomedical engineer and has specialized in artificial intelligence applications including Deep Learning, Computer Vision and NLP techniques for analysis of multi-modality real world datasets, Generative Adversarial (GAN) models, digital signal and data processing techniques including

image classification, segmentation and radiomics, image reconstruction and low-dose imaging.

Dr. Seyyedi received his Master of Science in Biomedical Engineering where he studied techniques for processing and analysis of digital breast tomosynthesis data. He obtained his PhD in Computer Science, Medical Imaging and Informatics from Technical University of Munich in Germany where he was the recipient of an E.U. research fellowship supporting his research and studies in the field of computer science, medical imaging and informatics. During his PhD studies, he was a visiting scholar at Johns Hopkins University where he was involved in development of advanced models for multi-modality imaging problems.

Prior to joining AIMI, he was investigating image and data analysis techniques at Definiens AG - subsidiary of AstraZeneca PLC - where he led multiple projects and collaborations with several academic and industrial research partners focusing on AI based applications for analysis of big medical and biological datasets including digital pathologic and radiologic imaging data. He also worked with the British Columbia Cancer Agency of Canada as a part of PanCan lung cancer screening project where he and his team developed deep learning and radiomics applications for lung cancer detection and classification. At AIMI, he is involved in AI and medical imaging research, particularly in leading projects for development of deep learning and computer vision methods and other tools to detect and characterize cancer on radiologic images. He is an author, reviewer and editorial board member in several journals and conferences and his interdisciplinary research and studies have been supported and recognized by a number of awards and grants.

HONORS AND AWARDS

- Funding for Postdoctoral Research, Stanford University, Stanford, CA (2019)
- European Union Research Fellowship, Technical University of Munich, Munich, Germany (2014)
- Grant for COST Training School on Algebraic Reconstruction Methods in Tomography, Technical University of Denmark, Copenhagen, Denmark (2016)
- Graduate Scholarship for Master Studies, Scientific and Technological Research Council of Turkey (2011)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Editorial Board Member, Journal of Medical Artificial Intelligence (2019 - present)
- Associate Member, American Association for Cancer Research (AACR) (2019 - present)
- Fellowship Member, Society of Breast Imaging (SBI) (2019 - present)
- Member, Computer Vision Foundation (CVF) (2018 - present)

- Member, European Society for Hybrid Molecular and Translational Imaging (ESHI-MT) (2018 - present)
- Senior Member, International Association of Computer Science & Information Technology (IACSIT) (2018 - present)
- Member, American Association of Physicists in Medicine (AAPM) (2017 - present)

PROFESSIONAL EDUCATION

- Ph.D., Technical University of Munich, Munich, Germany , Computer Science, Medical Imaging and Informatics (2018)
- M.Sc., Istanbul Technical University, Istanbul Turkey , Biomedical Engineering (2014)

LINKS

- Personal Webpage: <http://seyyedi.people.stanford.edu>
- Center for Artificial Intelligence in Medicine & Imaging: <https://aimi.stanford.edu>

Publications

PUBLICATIONS

- **Machine learning and deep learning approaches for classification of sub-cm lung nodules in CT scans** *SPIE Medical Imaging*
Abraham, R., Seyyedi, S., et al
2020
- **Optimizing Radiomics Features by Minimizing Boundary Effects and Normalizing with Opposite Lung Tissue Characteristics**
Seyyedi, S., Mayo, J., Atkar-Khattra, S., Yuan, R., Lam, S., Macaulay, C.
ELSEVIER SCIENCE INC.2018: S568–S569
- **Low-Dose CT Perfusion of the Liver Using Reconstruction of Difference** *IEEE TRANSACTIONS ON RADIATION AND PLASMA MEDICAL SCIENCES*
Seyyedi, S., Liapi, E., Lasser, T., Ivkov, R., Hatwar, R., Stayman, J.
2018; 2 (3): 205–14
- **Incorporating a Noise Reduction Technique Into X-Ray Tensor Tomography** *IEEE TRANSACTIONS ON COMPUTATIONAL IMAGING*
Seyyedi, S., Wiczorek, M., Pfeiffer, F., Lasser, T.
2018; 4 (1): 137–46
- **Comparison of Classical Machine Learning and Convolution Neural Nets for the Differentiation of Malignant from Benign Sub 1.1 mm Lung Nodules in CT Scans** *ACR Special Conference Convergence: Artificial Intelligence, Big Data, and Prediction in Cancer*
Seyyedi, S., Janzen, I., Atkar-Khattra, S., Lam, S., MacAulay, C., et al
2018
- **Six dimensional X-ray Tensor Tomography with a compact laboratory setup** *APPLIED PHYSICS LETTERS*
Sharma, Y., Wiczorek, M., Schaff, F., Seyyedi, S., Prade, F., Pfeiffer, F., Lasser, T.
2016; 109 (13)
- **An Object-Oriented Simulator for 3D Digital Breast Tomosynthesis Imaging System** *COMPUTATIONAL AND MATHEMATICAL METHODS IN MEDICINE*
Seyyedi, S., Cengiz, K., Kamasak, M., Yildirim, I.
2013: 250689
- **Comparison of Radiomics-based Machine Learning and Deep Learning Image Classification for Sub-cm Lung Nodules** *IASLC 20th World Conference on Lung Cancer*
Seyyedi, S., Janzen, I., Khattra, S., Lam, S., MacAulay, C.
2019
- **Evaluation of Low-Dose CT Perfusion for the Liver using Reconstruction of Difference** *International Meeting on Fully Three-Dimensional Image Reconstruction in Radiology and Nuclear Medicine*
Seyyedi, S., Liapi, E., Lasser, T., Stayman, W.
2017
- **COMPONENT-BASED TV REGULARIZATION FOR X-RAY TENSOR TOMOGRAPHY**
Seyyedi, S., Wiczorek, M., Sharma, Y., Schaff, F., Jud, C., Pfeiffer, F., Lasser, T., IEEE

IEEE.2016: 581–84

- **A Regularized X-Ray Tensor Tomography Reconstruction Technique** *CT Meeting*

Seyyedi, S., Wicczorek, M., Pfeiffer, F., Lasser, T.

2016

- **3D Digital Breast Tomosynthesis Image Reconstruction Using Anisotropic Total Variation Minimization**

Seyyedi, S., Yildirim, I., IEEE

IEEE.2014: 6052–55

- **An Object-Oriented Simulator for 3D Digital Breast Tomosynthesis System**

Seyyedi, S., Cengiz, K., Kamasak, M., Yildirim, I., IEEE

IEEE.2013: 262–+

- **Evaluating the Effect of Acquisition Parameters in Digital Breast Tomosynthesis System with Iterative Reconstruction Methods on Image Quality**

Seyyedi, S., Yildirim, I., Kamasak, M., IEEE

IEEE.2013

- **3-D Tomosynthesis Image Reconstruction Using Total Variation**

Ertas, M., Akan, A., Cengiz, K., Kamasak, M., Seyyedi, S., Yildirim, I., IEEE

IEEE.2012: 1–5