

Kivanc Kose, Ph.D.

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3,100 Citations	28 h-index	63 i10-index	7 Active grants, 5 as PI / co-PI / site PI
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Electrical engineer developing machine learning and computer vision methods for non-invasive cancer imaging: reflectance confocal microscopy, dermoscopy, smartphone and 3D total-body photography. Co-PI of the NIH-funded International Skin Imaging Collaboration (ISIC) Archive, the leading public skin imaging repository for AI research.

APPOINTMENTS

2016 – present	Research Scientist , Memorial Sloan Kettering Cancer Center, New York, NY
2023 – present	Adjunct Assistant Professor , Columbia University, New York, NY
2014 – present	Visiting Scholar , Northeastern University, Boston, MA
2014 – 2016	Research Scholar , Memorial Sloan Kettering Cancer Center
2012 – 2014	Research Fellow , Memorial Sloan Kettering Cancer Center
2012	Project Researcher , Bilkent University, Ankara, Turkey

EDUCATION

2012	Ph.D., Electrical and Electronics Engineering , Bilkent University, Turkey
2007	M.Sc., Electrical and Electronics Engineering , Bilkent University, Turkey
2004	B.Sc., Electrical and Electronics Engineering , Bilkent University, Turkey

RESEARCH FUNDING · CURRENT

2022 – 2027	MISIC: A Multimodal Open-Source International Skin Imaging Collaboration Informatics Platform for Automated Skin Cancer Detection NIH U24 CA264369 · co-PI with V. Rotemberg · \$4.15M
2023 – 2028	ISICREPO: ISIC Skin Imaging Repository Enhancements for Promoting Interoperability and Utilization NIH U24 CA285296 · co-PI with A. Halpern · \$4.67M
2024 – 2026	Generalizable and reliable AI for early detection of melanoma CDMRP ME230206 · co-PI with A. Halpern

2024 – 2027	Enabling AI for Early Detection of Melanoma in Smartphone Images Melanoma Research Association · co-PI with A. Halpern · \$888K
2024 – 2028	Non-invasive, quantitative microscopic biomarkers for chemotherapy-induced peripheral neuropathy NCI · Site PI (PI: D. Kang)
2024 – 2028	Probe-based light sheet microscopy (pLSM) for screening of anal cancer NCI · Site PI (PI: D. Kang)
2023 – 2026	FINDMEL: Developing an application for Following Images of Nevi to Detect Melanoma CDMRP Melanoma Academy Scholar Award · Investigator (PI: V. Rotemberg)

RESEARCH FUNDING · PENDING

2026 – 2030	Detection and classification of oral lesions with reflectance confocal microscopy and machine learning NCI R01 · co-PI (PI: M. Rajadhyaksha)
2026 – 2030	MAGENTAS-HEALTH European Union HORIZON-HLTH-2025-01-CARE-01 · Investigator (PI: H. Kittler)

RESEARCH FUNDING · COMPLETED

2023 – 2025	Mobile phone-based deep learning algorithm for oral lesion screening in low-resource setting NCI R21 CA274717 · Investigator (PI: M. Rajadhyaksha)
2020 – 2024	Simultaneous coaxial widefield imaging and reflectance confocal microscopy for improved diagnosis of skin cancers in vivo NIBIB R01 EB028752 (PIs: D. Dickensheets, M. Rajadhyaksha, O. Camps, B. Fox)
2019 – 2024	Confocal videomosaicking microscopy to guide surgery of superficially spreading skin cancers NCI R01 CA240771 and supplement · Project Investigator (PIs: M. Rajadhyaksha, O. Camps)
2015 – 2019	Automated Image Guidance of Diagnosing Skin Cancer with Confocal Microscopy NCI R01 CA199673 · Project Investigator (PI: M. Rajadhyaksha)

SELECTED PUBLICATIONS

* shared first authorship

1. Kurtansky NR, Gillis MC, Codella NCF, et al. Automated triage of cancer-suspicious skin lesions with 3D total-body photography. *npj Digital Medicine* 8:708, 2025.

2. Kurtansky NR, D'Alessandro BM, Gillis MC, Betz-Stablein B, et al. The SLICE-3D dataset: 400,000 skin lesion image crops extracted from 3D TBP for skin cancer detection. *Scientific Data* 11:884, 2024.
3. **Kose K**, Rotemberg V. The promise and drawbacks of federated learning for dermatology AI. *JAMA Dermatology* 160(3):269–270, 2024.
4. Torop M, Masoomi A, Hill D, **Kose K**, Ioannidis S, Dy J. SmoothHess: ReLU network feature interactions via Stein's lemma. *Advances in Neural Information Processing Systems (NeurIPS)* 36, 2023.
5. Sahu A, **Kose K**, Kraehenbuehl L, et al. In vivo tumor immune microenvironment phenotypes correlate with inflammation and vasculature to predict immunotherapy response. *Nature Communications* 13:5312, 2022.
6. Daneshjou R, Barata C, Betz-Stablein B, ..., **Kose K**, et al. Checklist for evaluation of image-based artificial intelligence reports in dermatology: CLEAR Derm consensus guidelines. *JAMA Dermatology* 158(1):90–96, 2022.
7. Campanella G, Navarrete-Dechent C, Liopyris K, **Kose K**, et al. Deep learning for basal cell carcinoma detection for reflectance confocal microscopy. *Journal of Investigative Dermatology* 142(1):97–103, 2022.
8. **Kose K***, Bozkurt A*, Alessi-Fox C, et al. Segmentation of cellular patterns in confocal images of melanocytic lesions in vivo via a multiscale encoder-decoder network (MED-Net). *Medical Image Analysis* 67, 2021.
9. Rotemberg V, Kurtansky N, Betz-Stablein B, ..., **Kose K**, et al. A patient-centric dataset of images and metadata for identifying melanomas using clinical context. *Scientific Data* 8:34, 2021.
10. **Kose K**, Bozkurt A, Alessi-Fox C, et al. Utilizing machine learning for quality assessment for reflectance confocal microscopy. *Journal of Investigative Dermatology* 140(6):1214–1222, 2020.
11. **Kose K**, Gou M, Yelamos O, et al. Automated video-mosaicking approach for confocal microscopic imaging in vivo. *Scientific Reports* 7, 2017.
12. **Kose K***, Kurugol S*, Park B, et al. Automated delineation of dermal-epidermal junction in reflectance confocal microscopy image stacks of human skin. *Journal of Investigative Dermatology* 135(3):710–717, 2015.

SELECTED INVITED TALKS

2024	ISIC 2024 Skin Cancer Detection with 3D-TBP · ISIC Workshop at MICCAI 2024, Morocco
2023	Expanding ISIC beyond Dermoscopy: M(ultimodal)-ISIC · MICCAI 2023, Canada
2020	Facilitating the Adoption of Reflectance Confocal Microscopy in Clinical Cancer Care Practice with Machine Learning and Computer Vision · Massachusetts General Hospital
2019	How machine vision and deep nets can help in adoption of reflectance confocal microscopy in clinical practice · SPIE Photonics West, San Francisco
2018	How Computer Vision and Deep Nets Can Help in Adoption of Reflectance Confocal Microscopy in Clinical Practice · Istanbul Technical University
2014	Skin Cancer Management Using Quantitative Image Analysis Tools for Reflectance Confocal Microscopy · IBM Research Center

TEACHING AND MENTORING

2023 – present **Machine Learning**, M.Sc. and M.A. students, Columbia University

2025 – present	Tooba Imtiaz, Northeastern University · 3D volumes from RCM image stacks
2023 – present	Jorge Tapiaz Gomez, M.S. student, Cornell University · active-learning annotation tool for dermatology images
2022 – present	Jinyang Liu, Ph.D. student (co-advisor) · real-time videomosaicking
2019 – present	Max Torop, Ph.D. student, Northeastern University (co-advisor) · NeurIPS 2023
2021 – 2025	Anabel Alfonso, Research Technician, MSK Dermatology Service
2019 – 2020	Marissa D'Alonzo, M.S., Northeastern University (co-advisor) · now at Draper Laboratories
2013 – 2020	Alican Bozkurt, Ph.D. (co-advisor) · 5 journal and 6 conference papers · now at Paige.AI

PROFESSIONAL SERVICE

2013 – present	Associate Editor , Signal, Image and Video Processing
2025	Grant Reviewer , DoD
2023 – 2024	Scientific Program Committee , member and session chair, OSA
2012 – present	Journal reviewer : IEEE Transactions on Image Processing, IEEE Signal Processing, Digital Signal Processing, Journal of Biomedical Optics, Scientific Reports, Machine Learning for Biomedical Imaging, Biocybernetics and Biomedical Engineering

HONORS

2014	Society for Investigative Dermatology Eugene M. Farber Travel Award for Young Investigators, Montagna Symposium on the Biology of Skin
2012	Best Paper, 4th International Conference on Progress in Cultural Heritage Preservation (EUROMED)
2012	Best Paper Award, Bilkent University EE Department Graduate Research Conference
2010 – 2012	Full Graduate Scholarship, EU FP6/FP7 and nationally funded projects