Assoc. Prof. Ayşe Betül OKTAY

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Education

Doctorate, Gebze Technical University, Institute Of Scıence, Turkey 2007 - 2011
Postgraduate, Fatih University, Institute Of Scıence, Turkey 2004 - 2006
Undergraduate, Fatih University, Faculty Of Engıneerıng, Department Of Computer Engıneerıng, Turkey 2000 - 2004

Research Areas

Avesis Research Areas: algorithms, Computer Vision, Artificial Intelligence, Computer Learning and Pattern Recognition
WoS Research Areas: COMPUTER SCIENCE
Scopus Research Areas: General Computer Science

Academic Positions

Associate Professor, Yildiz Technical University, Faculty of Electrical & Electronics, Computer Engineering, 2021 - Present
Assistant Professor, Istanbul Medeniyet University, Faculty Of Engineering And Natural Sciences , Computer Engineering, 2011 - 2021

Academic and Administrative Experience

Head of Department, Istanbul Medeniyet University, Faculty Of Engineering And Natural Sciences , Computer Engineering, 2017 - 2020
Head of Department, Istanbul Medeniyet University, Faculty Of Engineering And Natural Sciences , Computer Engineering, 2014 - 2015

Articles

I. **Improving Chronological Age Estimation in Children Using the Demirjian Method Enhanced with Transformer and Regression Models**
Simsek H., AKTAŞ A., İLHAN H. O., Simsek N. K., Yasa Y., Ozcelik E., Oktay A. B.
Journal of Imaging Informatics in Medicine, vol.39, no.4, pp.3623-3638, 2026 (SCI-Expanded, Scopus)

II. **Diagnostic accuracy of convolutional neural network algorithms to distinguish gastrointestinal obstruction on conventional radiographs in a pediatric population**
Ayaz E., GÜÇLÜ H., Oktay A. B.
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III. **Stress recognition from facial images in children during physiotherapy with serious games[Formula presented]**
Vural Ş. F., Yurdusever B., OKTAY A. B., Uzun I.
Expert Systems with Applications, vol.238, 2024 (SCI-Expanded, Scopus)

IV. **Differentiation of lung and breast cancer brain metastases: Comparison of texture analysis and deep convolutional neural networks**
GÜLTEKİN M. A., PEKER A. A., OKTAY A. B., TÜRK H. M., Cesme D. H., Shbair A. T. M., YILMAZ T. F., Kaya A., Yasin A. I., ŞEKER M., et al.
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V. **A physiological signal database of children with different special needs for stress recognition**
Coşkun B., Ay S., Erol Barkana D., Bostanci H., Uzun I., Oktay A. B., Tuncel B., Tarakci D.
SCIENTIFIC DATA, vol.10, no.1, pp.382-396, 2023 (SCI-Expanded, Scopus)

VI. **Dental biometric systems: a comparative study of conventional descriptors and deep learning-based features**
OKTAY A. B., Akhtar Z., Gurses A.
MULTIMEDIA TOOLS AND APPLICATIONS, vol.81, no.20, pp.28183-28206, 2022 (SCI-Expanded, Scopus)

VII. **The validity of an objective measurement method using the Leap Motion Controller for fingers wrist, and forearm ranges of motion**
ARMAN S. N., Oktay A. B., Tarakci D., Tarakci E., Akgul Y. S.
HAND SURGERY & REHABILITATION, vol.40, no.4, pp.394-399, 2021 (SCI-Expanded, Scopus)

VIII. **Differential diagnosis of Parkinson and essential tremor with convolutional LSTM networks**
Oktay A. B., Kocer A.
BIOMEDICAL SIGNAL PROCESSING AND CONTROL, vol.56, 2020 (SCI-Expanded, Scopus)

IX. **Automatic detection, localization and segmentation of nano-particles with deep learning in microscopy images**
Oktay A. B., Gurses A.
MICRON, vol.120, pp.113-119, 2019 (SCI-Expanded, Scopus)

X. **Human identification with dental panoramic radiographic images**
Oktay A. B.
IET BIOMETRICS, vol.7, no.4, pp.349-355, 2018 (SCI-Expanded, Scopus)

XI. **Nintendo Wii assessment of Hoehn and Yahr score with Parkinson's disease tremor**
Kocer A., Oktay A. B.
TECHNOLOGY AND HEALTH CARE, vol.24, no.2, pp.185-191, 2016 (SCI-Expanded, Scopus)

XII. **Computer aided diagnosis of degenerative intervertebral disc diseases from lumbar MR images**
Oktay A. B., Albayrak N. B., Akgul Y. S.
COMPUTERIZED MEDICAL IMAGING AND GRAPHICS, vol.38, no.7, pp.613-619, 2014 (SCI-Expanded, Scopus)

XIII. **Extraction of left ventricle borders with local and global priors from echocardiograms**
Oktay A. B., Akgul Y. S.
MACHINE VISION AND APPLICATIONS, vol.24, no.7, pp.1393-1403, 2013 (SCI-Expanded, Scopus)

XIV. **Simultaneous Localization of Lumbar Vertebrae and Intervertebral Discs With SVM-Based MRF**
Oktay A. B., Akgul Y. S.
IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING, vol.60, no.9, pp.2375-2383, 2013 (SCI-Expanded, Scopus)

XV. **A Modular Framework for Shape- and Image-prior-based Anatomical Structure Contour Extraction**
Oktay A. B., Akgul Y. S.
JOURNAL OF MEDICAL AND BIOLOGICAL ENGINEERING, vol.31, no.6, pp.413-420, 2011 (SCI-Expanded, Scopus)

XVI. **Forecasting air pollutant indicator levels with geographic models 3 days in advance using neural networks**

Kurt A., Oktay A. B.
EXPERT SYSTEMS WITH APPLICATIONS, vol.37, no.12, pp.7986-7992, 2010 (SCI-Expanded, Scopus)

XVII. **An online air pollution forecasting system using neural networks**
Kurt A., Gulbagci B., Karaca F., Alagha O.
ENVIRONMENT INTERNATIONAL, vol.34, no.5, pp.592-598, 2008 (SCI-Expanded, Scopus)

Papers Presented at Peer-Reviewed Scientific Conferences

I. **Human Identification with Panoramic Dental Images using Mask R-CNN and SURF**
Guises A., Oktay A. B.
5th International Conference on Computer Science and Engineering (UBMK), Diyarbakır, Turkey, 9 - 11 September 2020, pp.232-237, (Full Text)

II. **Tooth Restoration and Dental Work Detection on Panoramic Dental Images via CNN**
Gurses A., Oktay A. B.
2020 Medical Technologies Congress (TIPTEKNO), ELECTR NETWORK, 19 - 20 November 2020, (Full Text)

III. **Diagnosis of COVID-19 with a Deep Learning Approach on Chest CT Slices**
Yener F. M., Oktay A. B.
2020 Medical Technologies Congress (TIPTEKNO), ELECTR NETWORK, 19 - 20 November 2020, (Full Text)

IV. **Air Pollution Forecasting with Random Forest Time Series Analysis**
Altincop H., Oktay A. B.
International Conference on Artificial Intelligence and Data Processing (IDAP), Malatya, Turkey, 28 - 30 September 2018, (Full Text)

V. **Nanoparticle Detection from TEM Images with Deep Learning**
Guven G., Oktay A. B.
26th IEEE Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018, (Full Text)

VI. **Forecasting CO2 Emission with Machine Learning Methods**
Garip E., Oktay A. B.
International Conference on Artificial Intelligence and Data Processing (IDAP), Malatya, Turkey, 28 - 30 September 2018, (Full Text)

VII. **Tooth Detection with Convolutional Neural Networks**
Oktay A. B.
Medical Technologies National Congress (TIPTEKNO), Trabzon, Turkey, 12 - 14 October 2017, (Full Text)

VIII. **Prostate Localization from Abdominal Ultrasound Images by Using a Two-Level Approach**
Albayrak N. B., Oktay A. B., Akgul Y. S.
25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, 15 - 18 May 2017, (Full Text)

IX. **Diagnosis of Degenerative Intervertebral Disc Disease with Deep Networks and SVM**
Oktay A. B., Akgul Y. S.
31st International Symposium on Computer and Information Sciences (ISCIS), Krakow, Poland, 27 - 28 October 2016, vol.659, pp.253-261, (Full Text)

X. **PROSTATE DETECTION FROM ABDOMINAL ULTRASOUND IMAGES: A PART BASED APPROACH**
Albayrak N. B., Oktay A. B., Akgul Y. S.
IEEE International Conference on Image Processing (ICIP), Quebec City, Canada, 27 - 30 September 2015, pp.1955-1959, (Full Text)

XI. **SEGMENTATION OF Fe3O4 NANO PARTICLES IN TEM IMAGES**
Vural U., Oktay A. B.
22nd IEEE Signal Processing and Communications Applications Conference (SIU), Trabzon, Turkey, 23 - 25 April 2014, pp.1849-1852, (Full Text)

XII. **Desiccation Detection from Lumbar MR Images**

Oktay A. B., Albayrak N. B., Akgul Y. S.
21st Signal Processing and Communications Applications Conference (SIU), CYPRUS, 24 - 26 April 2013, (Full Text)

XIII. **Localization of the Lumbar Discs Using Machine Learning and Exact Probabilistic Inference**
Oktay A. B., Akgul Y. S.
14th International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI 2011), Toronto, Canada, 18 - 22 September 2011, vol.6893, pp.158-165, (Full Text)

XIV. **Artificial Neural Networks based modelling of CO Effects of spatial parameters**
KURT A., OKTAY A. B., KARACA F., alagha O.
Information Technologies in Environmental Engineering, 1 - 03 May 2009, pp.345-356, (Full Text)

XV. **Echocardiographic Contour Extraction with Local and Global Priors through Boosting and Level Sets**
Oktay A. B., Akgul Y. S.
IEEE-Computer-Society Conference on Computer Vision and Pattern Recognition Workshops, Florida, United States Of America, 20 - 25 June 2009, pp.109-114, (Full Text)

XVI. **A Novel Level Set Based Echocardiographic Contour Extraction Method with Prior Knowledge**
OKTAY A. B., AKGÜL Y. S.
Procedings of the British Machine Vision Conference 2008, Leeds, United Kingdom, 1 - 04 September 2008, pp.1-10, (Full Text)

XVII. **Prior Information Based Segmentation: A 3D Level Set Surface Matching Approach**
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23rd International Symposium on Computer and Information Sciences (ISCIS), İstanbul, Turkey, 27 - 29 October 2008, pp.419-424, (Full Text)

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