MONDAY 9 SEPTEMBER

Conf. 11149, REMOTE SENSING FOR AGRICULTURE, ECOSYSTEMS, AND HYDROLOGY
Location: Luxembourg
Grassland monitoring based on Sentinel-1
Paper 11149-1
Near real-time mapping of burned area from Sentinel-2 data
Paper 11149-10
Early detection of Heracleum mantegazzianum (giant hogweed) based on leaf spectral characteristics from UAV images using SVM and OBIA techniques
Paper 11149-12

CONF. 11155, IMAGE AND SIGNAL PROCESSING FOR REMOTE SENSING
Location: Amsterdam
Stacked Lossless Deconvolutional Network for remote sensing image super-resolution
Paper 11155-3
Remote sensing and machine learning for tree detection and classification in forestry applications
Paper 11155-14

CONF. 11157, REMOTE SENSING TECHNOLOGIES AND APPLICATIONS IN URBAN ENVIRONMENTS
Location: Madrid 1
Building facade image semantic segmentation using an ensemble of deep neural networks
Paper 11157-12

CONF. 11160, ELECTRO-OPTICAL REMOTE SENSING
Location: Londres 2
Transfer learning on GPR data for IED detection in various environments
Paper 11160-14

TUESDAY 10 SEPTEMBER

Conf. 11149, REMOTE SENSING FOR AGRICULTURE, ECOSYSTEMS, AND HYDROLOGY
Location: Luxembourg
Multitemporal crop classification with machine learning techniques
Paper 11149-28
Texture-based analysis of hydrographical basins with multispectral imagery
Paper 11149-29
Machine learning model forecasting model for grass yield estimation in Ireland
Paper 11149-30
Farming systems monitoring using machine learning and trend analysis methods based on fitted NDVI time series data in a semi-arid region of Morocco
Paper 11149-31

CONF. 11155, IMAGE AND SIGNAL PROCESSING FOR REMOTE SENSING
Location: Amsterdam
Building segmentation of remote sensing images using deep neural networks and domain transform CRFs
Paper 11155-21
Deep learning-based extraction of building contours for large-scale 3D urban reconstruction
Paper 11155-22
Object detection in satellite images based on human cooperative semi-self-training
Paper 11155-23
Dense-HSGP: dense Gaussian-based context pooling for very high-resolution building extraction
Paper 11155-24
ClusterNet: unsupervised generic feature learning for fast interactive satellite image segmentation
Paper 11155-25
Approximating JPEG 2000 wavelet representation through deep neural networks for remote sensing image scene classification
Paper 11155-27
Recurrent feedback CNN for water region estimation from multitemporal satellite images
Paper 11155-79
A novel 3D-CNN deep learning network for hyperspectral image classification
Paper 11155-29
Spectral perturbation method for deep learning-based classification of remote sensing hyperspectral images
Paper 11155-30
Detecting ineligible features in agricultural fields on multitemporal high resolution satellite images using a two-stage DNN architecture
Paper 11155-31

Machine Learning and AI: Virtual Programme Track
Overview of presentations on machine learning and AI throughout the Remote Sensing and Security + Defence Symposia
AI AND MACHINE LEARNING VIRTUAL TRACK

CONF. 11156, EARTH RESOURCES AND ENVIRONMENTAL REMOTE SENSING/GIS APPLICATIONS
Location: Berlin

A semi-automatic approach to derive land cover classification in RUSLE method (Invited Paper)
Paper 11156-10

An assessment of support vector machine for land cover classification over South Korea using GOCI data
Paper 11156-13

An approach for generating a high-accuracy machine learning model for high-resolution geochemical map completion using remote sensing data: a case study, Arizona, USA
Paper 11156-15

CONF. 11157, REMOTE SENSING TECHNOLOGIES AND APPLICATIONS IN URBAN ENVIRONMENTS
Location: Madrid 1

DubaiSat and Sentinel images for urban growth detection using convolutional neural network, Dubai City
Paper 11157-16

Machine learning methods and classification of vegetation in Brest (France) (Invited Paper)
Paper 11157-23

CONF. 11166, COUNTERTERRORISM, CRIME FIGHTING, FORENSICS, AND SURVEILLANCE TECHNOLOGIES
Location: Varsovie

Automatic threat evaluation for border security and surveillance
Paper 11166-15

Evaluation of acoustic detection of UAVs using machine learning methods
Paper 11166-16

Assistance System for the Situation Aware Defense of Danger through Unmanned Aerial Systems
Paper 11166-17

A local area UAS detection system from an elevated observation position
Paper 11166-18

A sensor tasking algorithm for EO/IR sensors carried by UAVs
Paper 11166-19

A multimodal vision sensor for autonomous driving
Paper 11166-20

Image enhancement of pre-processed fingerprints using color information and spatial frequency filtering
Paper 11166-21

Color augmentation techniques for video surveillance in the visible and thermal spectral range
Paper 11166-22

Semi-supervised adversarial training of a lightweight neural network for visual recognition
Paper 11166-23

A comparison study of deep visual tracking on infrared imagery in a maritime environment
Paper 11166-24

An architecture for automatic multimodal video data anonymization to ensure data protection
Paper 11166-25

Automated license plate detection for image anonymization
Paper 11166-26

A utility-driven surveillance approach to trade-off security and privacy
Paper 11166-27

Action localization and classification in long-distance surveillance
Paper 11166-30

SESSION OF RELATED INTEREST
Remote Surveillance and Autonomous Sensors (Session 3, Conf. 11166)

POSTERS—TUESDAY
Severe Visibility Marine Fog Detection using COMS/GOCI VIS bands
Paper 11152-42

Use of Fris-Tax clustering of WWLLN data and MODIS images to predict forest fire danger
Paper 11152-46

Fusion of surface ceilometer data and satellite cloud retrievals in 2D mesh interpolating model with clustering
Paper 11152-49

Estimation of cloudiness and aerosol characteristics in the atmosphere from spectral measurements of scattered solar radiation using a neural network
Paper 11152-51

Paper 11154-6

Land cover classification and change detection analysis of multispectral satellite images using machine learning
Paper 11155-56

Performance evaluation of convolutional neural network at hyperspectral and multispectral resolution for classification
Paper 11155-61

Multisensor image fusion based on generative adversarial networks
Paper 11155-62

Deep learning for dense labeling of hydrographic regions in very high resolution imagery
Paper 11155-63

Retrieval of precipitation based on microwave sensor of satellite using deep learning and blending grid-based multisatellite precipitation using EBMA
Paper 11155-72

Crop classification based on lightened convolutional neural networks in multispectral images
Paper 11155-80
AI AND MACHINE LEARNING VIRTUAL TRACK

WEDNESDAY 11 SEPTEMBER

CONF. 11152, REMOTE SENSING OF CLOUDS AND THE ATMOSPHERE
Location: Londres 1
Advances in neural network detection and retrieval of multilayer clouds for CERES using multispectral satellite data
Paper 11152-1

Conf. 11154, ACTIVE AND PASSIVE MICROWAVE REMOTE SENSING FOR ENVIRONMENTAL MONITORING
Location: Amsterdam
Capsule and convolutional neural network-based SAR ship classification in Sentinel-1 data
Paper 11154-4

CONF. 11155, IMAGE AND SIGNAL PROCESSING FOR REMOTE SENSING
Location: Amsterdam
Blind noise parameters estimation for multichannel images using deep convolutional neural networks
Paper 11155-38
Pixel level smoke detection model with deep neural network
Paper 11155-39
Road and railway detection in SAR images using deep learning
Paper 11155-48

CONF. 11156, EARTH RESOURCES AND ENVIRONMENTAL REMOTE SENSING/GIS APPLICATIONS
Location: Berlin
Conditioning factor determination for mapping and prediction of landslide susceptibility using machine learning algorithms
Paper 11156-19
Effects of variable selection on the landslide susceptibility assessment using machine learning techniques
Paper 11156-22
Evaluating the performance of support vector machines (SVMs) and random forest (RF) in Li-pegmatite mapping: preliminary results
Paper 11156-26

THURSDAY 12 SEPTEMBER

CONF. 11152, REMOTE SENSING OF CLOUDS AND THE ATMOSPHERE
Location: Londres 1
Assessment of three-dimensional, fine-granular measurement of particulate matter by Smart Air Quality Network in urban area
Paper 11152-20

WEDNESDAY - THURSDAY 11–12 SEPTEMBER

Conf. 11169, ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING IN DEFENSE APPLICATIONS
Location: Varsovia
Full conference programme is focused on AI and Machine Learning: please see the programme at: www.spie.org/sd114
Conference sessions at a glance:
Posters-Tuesday
Session 1: AI in Intelligence, Surveillance, and Reconnaissance (Joint Session 5)
Session 2: Object Detection (Joint Session 6)
Session 3: Segmentation (Joint Session 7)
Session 4: AI for Defence Applications
Session 5: Image Enhancement, Fusion, and Backgrounds