CHIRAG PADUBIDRI

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SUMMARY

I am a dedicated Researcher with a Master's in Embedded Systems, focusing on Deep Learning, Machine Learning, and Computer Vision. My current research is centered around leveraging Remote Sensing, Deep Learning, and Pervasive Computing to develop innovative solutions for Biodiversity Monitoring and promote sustainability. I thrive in collaborative environments and consistently deliver high-quality results.

COLLEGE

Doctoral Training Program (Pursing)

Cyprus University of Technologies

📅 January 2022 - Present   📍 CYENS Centre of Excellence, Cyprus

My doctoral research involves harnessing the capabilities of Species Distribution Models (SDM) to construct a species digital twin and development of the algorithms for optimizing camera-trap placement to maximize species diversity coverage using SDM.

MSc. in Embedded System

University of Twente

📅 2018 – 2020   📍 Twente, Netherlands

Master of Science in Embedded System focusing on Machine Learning, Computer Vision and Embedded System.

BE in Electrical and Electronics Engineering

Visvesvaraya Technological University

📅 2010 – 2014   📍 Belgaum, India

Bachelor's degree in Electrical and Electronics Engineering with a CGPA of 8.87 from NMAM Institute of Technology, Nitte, India.

EXPERIENCE

Chief Operating Officer (COO)

PERIOPSIS LTD

📅 Sep 2022-Present   📍 Cyprus

PERIOPSIS LTD(https://www.periopsis.com/) is an innovative company providing satellite imagery and aerial photography-based analytic services employing state-of-art Artificial Intelligence and Computer Vision techniques. PERIOPSIS is a spin-off company of the CYENS – Center of Excellence

Research Associate

SuPerWorld MRG

📅 September 2020 - Present   📍 CYENS Centre of Excellence, Cyprus

Role:
-To conduct fundamental and/or applied research as part of the company's research focus in interactive media under the respective Multidisciplinary Research Group (MRG)
-To participate in the preparation of project report and deliverables, research proposals for funding, and software development.
-To have a role in dissemination activities, including presenting and publishing research results in prestigious international conferences and journals.

RESEARCH INTEREST

Biodiversity monitoring

Pervasive computing   Deep learning

Species Distribution Model

Remote-sensing   Cameratrap

Passive Acoustic Monitoring

TECHNICAL SKILLS

Computer Vision   Deep Learning

Machine Learning   Embedded System

Internet-of-Things   Image Processing

Machine-Vision   GIS

ADDITIONAL SKILLS

PyTorch   Keras   Tensorflow

OpenCV   Pandas   GeoPandas

Satellite imagery   Multi-spectral

QGIS   ArcGIS

PROGRAMMING SKILLS

Python	●●●●●
C++	●●●●●
QGIS	●●●●●
ArcGIS	●●●●●
Latex & Markdown	●●●●●
Version Control	●●●●●
Blender	●●●●●

SOFTSKILLS

Team Work   Self-Motivated

Independent   Hard-Working

Responsibility

CURRENT PROJECT

MED4PEST - MEDiterranean alliance for ecological PEST management
CYENS Centre of Excellence
MED4PEST (`https://med4pest.org/`) aims to develop proven, effective Ecologically Based Rodent Management (EBRM) methods and products, which are readily integrated into local pest/invasive rodent management systems in Mediterranean countries, contributing to the shift from synthetic pest control to biological and ecological pest management, ultimately leading to eco-sustainable farming systems, higher quality and quantity crop production and optimization of input use for ecosystem health. MED4PEST objectives and goals will produce new knowledge through scientific research that will be pursued with the collaborative research of the consortium partners from 2 Universities, 2 Research Institutes, and one company. MED4PEST is funded by Prima Foundation (Partnership for Research and Innovation in the Mediterranean Area), it is coordinated by MetaMeta Anatolia.

BEHIVE - Monitoring and Observing BEes in real-time by means of Smart BeeHIVEs
CYENS Centre of Excellence
The objective of BE-HIVE `https://superworld.cyens.org.cy/project16.html` is to develop a complete end-to-end smart beehive monitoring system. It will employ state-of-the-art sensing technologies (noise, temperature, humidity, optical and thermal cameras, camera traps), together with state-of-the-art computer vision technologies (deep learning, DL) and remote sensing (aerial photography from drones) to create smart beehives, monitoring bees' behavior and population numbers in real-time, examining in real-time potential threats to their colonies (anomaly detection). This allows to understand their well-being, react fast in dangers, especially in relation to climate change, making the life of beekeepers easier. Remote sensing allows to map the nearby environment (e.g. up to a distance of 5 kilometers) in terms of plants /flowers while DL allows to monitor the movement of bees inside and in/out of the bee hive, observing which type of pollen (and correspondingly, flowers) they carry/visit. Finally, camera traps will be strategically placed near significant sources of nearby flowers, to understand where and when bees travel to locate food, as well as whether this creates conflicts with nearby (wild-)bees located in the larger area under study.

PUBLICATIONS

Andreas Kamilaris, Jesper Provoost, Jean-Baptiste Filippi, Chirag Padubidri, Savvas Karatsiolis, Ian Cole, Wouter Couwenbergh, and Evi Demetriou. "EscapeWildFire: Assisting People to Escape Wildfires in Real-Time." 2021 IEEE International Conference on Pervasive Computing and Communications Workshops and other Affiliated Events (PerCom Workshops), 2021.

Chirag Padubidri, Andreas Kamilaris, Savvas Karatsiolis, and Jacob Kamminga. "Counting Sea Lions and Elephants from Aerial Photography Using Deep Learning with Density Maps." Animal Biotelemetry 9, no. 1 (2021).

Chirag Padubidri, Andreas Kamilaris, and Savvas Karatsiolis. "Accurate Detection of Illegal Dumping Sites Using High Resolution Aerial Photography and Deep Learning." 2022 IEEE International Conference on Pervasive Computing and Communications Workshops and other Affiliated Events (PerCom Workshops), 2022.

Savvas Karatsiolis, Chirag Padubidri, and Andreas Kamilaris. "Exploiting Digital Surface Models for Inferring Super-Resolution for Remotely Sensed Images." IEEE Transactions on Geoscience and Remote Sensing 60 (2022): 1–13.

Andreas Kamilaris, J.B Filippi, Chirag Padubidri, R Koole, and Savvas Karatsiolis. "Examining the Potential of Mobile Applications to Assist People to Escape Wildfires in Real-Time." Fire Safety Journal 136 (2023): 103747.

Savvas Karatsiolis, Chirag Padubidri and Andreas Kamilaris, Scalable Retrieval of Similar Landscapes in Optical Satellite Imagery Using Unsupervised Representation Learning, Remote Sensing Journal, vol. 16, no. 1, December 2023. https://doi.org/10.3390/rs16010142

Asfa Jamil, Chirag Padubidri, Savvas Karatsiolis, Indrajit Kalita, Aytac Guley and Andreas Kamilaris, GAEA - A Country-Scale Geospatial Environmental Modelling Tool: Towards a Digital Twin for Real Estate, Proceedings of the 37th edition of Environmental Informatics Conference (EnviroInfo 2023), Munich, Germany, October 2023.

Chirag Padubidri, Andreas Kamilaris, Alexis Charalambous, Andreas Lanitis and Marios Constantinides, The Be-Hive Project - Counting Bee Traffic based on Deep Learning and Pose Estimation, International Conference on Intelligent Systems (IntelliSys), Amsterdam, The Netherlands, September 2023.

Andreas Kamilaris, Jean-Baptiste Filippi, Chirag Padubidri and Savvas Karatsiolis, Examining the potential of mobile applications to assist people to escape wildfires in real-time, Fire Safety Journal, vol. 136, no. 103747, April, 2023. https://doi.org/10.1016/j.firesaf.2023.103747

Chirag Padubidri, Heleen Visserman, Andreas Lanitis, and Andreas Kamilaris, TaxaNet: Harnessing a Hierarchical Loss Function for Insect Classification Using Deep Learning, 4th International Workshop on Camera Traps, AI, and Ecology, Hagenberg, Austria, September 2024.