Domagoj Hackenberger Kutuzović

Datum rođenja: 29/12/1991 | **Državljanstvo:** hrvatsko | **Spol** Muško |

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Našička 4, 31000, Osijek, Hrvatska

RADNO ISKUSTVO

20/12/2020 – TRENUTAČNO – Osijek, Hrvatska
ISTRAŽIVAČ – ODJEL ZA BIOLOGIJU, SVEUČILIŠTE JOSIPA JURJA STROSSMAYERA

17/12/2020 – Osijek, Hrvatska
ISTRAŽIVAČ BIOLOG – BIOQUANT D.O.O.

Zagreb , Hrvatska
PRIPRAVNIK – GEONATURA D.O.O.

2015 – 2015 – Osijek, Hrvatska
ISTRAŽIVAČ – BIOQUANT D.O.O.

OBRAZOVANJE I OSPOSOBLJAVANJE

TRENUTAČNO – Roosveltov trg, Zagreb, Hrvatska
DOKTOR ZNANOSTI (DR.SC.) – Svučilište u Zagrebu, Prirodoslovno matematički fakultet

Područja obrazovanja
  ◦ Prirodne znanosti, matematika i statistika : *Biologija*

razina 8 EKO-a

Cara Hadrijana 6a, Osijek, Hrvatska
MAGISTAR ZAŠTITE PRIORDE I OKOLIŠA – Sveučilište Josipa Jurja Strossmayera, Odjel za biologiju

Područja obrazovanja
  ◦ Prirodne znanosti, matematika i statistika : *Znanost o okolišu*

Izdvajanje sekvenci glasanja šišmiša (Chiroptera) iz dugih nizova terenskih audio snimaka pomoću st |

razina 7 EKO-a | www.biologija.unios.hr

07/04/2015 – Cara Hadrijana 8a, Osijek, Hrvatska
PRVOSTUPNIK BIOLOGIJE (UNIV. BACC. BIOL.) – Sveučilište Josipa Jurja Strossmayer, Odjel za biologiju

Područja obrazovanja
  ◦ Prirodne znanosti, matematika i statistika : *Biologija*

razina 6 EKO-a | www.biologija.unios.hr

JEZIČNE VJEŠTINE

Materinski jezik/jezici: HRVATSKI

Drugi jezici:

	RAZUMIJEVANJE		GOVOR		PISANJE
	Slušanje	Čitanje	Govorna produkcija	Govorna interakcija	
ENGLESKI	C2	C2	C1	C1	C2

Razine: A1 i A2: temeljni korisnik; B1 i B2: samostalni korisnik; C1 i C2: iskusni korisnik

DIGITALNE VJEŠTINE

Programiranje

Python | JavaScript | CSS | HTML | GUI dizajn | Izrada web stranica | C++ | C | Parallel computing (CUDA) | Programiranje integriranih sustava | Izrada web aplikacija | C

GIS/Mapiranje/Fotogrametrija

QGIS | Metashape | Photogrametrija

Obrada podataka i strojno učenje

Python (Matplotlib NumPy sciki-learn) | Deep Learning | TensorFlow | Keras | Numba | R

Opće informatičke vještine

MS Office (MS Word MS Powerpoint MS Excel MS) | Windows | macOS | Linux

PUBLIKACIJE

Observing earthworm behavior using deep learning

Tamara Djerdj, Domagoj K.Hackenberger, Davorka K.Hackenberger, Branimir K. Hackenberger
https://doi.org/10.1016/j.geoderma.2019.113977 – 2020
Earthworm behavior represents a valuable endpoint in ecological and ecotoxicological studies, providing insight into individual- and population-level responses of organisms to ecological factors and xenobiotics. Difficulties in observing activities of soil-dwelling organisms come from the soil matrix surrounding the animals. We present an automated system for continuous monitoring of earthworm behavior directly in the soil. Performances of the developed system are tested in an avoidance test set-up. The developed system includes a 2D terrarium serving as an experimental compartment and a deep convolutional neural network model for continuous monitoring of earthworm behavior. Quantification of activity of organisms is based on the predictions of the neural network model made from image sequences captured during the exposure. Performance of the system was validated by comparison with results of the standard avoidance test, using H3BO3, a standard pollutant. The presented system represents a simple, cost-effective, fast, accurate and objective tool for continuous earthworm behavior monitoring in ecological and ecotoxicological studies. Source code and training data of this system are made freely available on GitHub.

ErIK—a software-based identification key for earthworm species of Croatia

Davorka K. Hackenberger, Domagoj K. Hackenberger, Tamara Djerdj, Branimir K. Hackenberger,
http://dx.doi.org/10.11646/zootaxa.4613.3.11 – 2019
The need for reliable taxonomic species identification is always present. Correct identification of specimens is based on taxonomic research, scattered in the scientific literature and accessible only for a restricted group of specialists or research institutions with extensive library facilities (Zuquim et al. 2017). Therefore, identification keys that summarize the knowledge of a group of biota are very important ; they provide the link between producers and users of taxonomy. Recently, printed identification keys are increasingly being replaced or supplemented by computer- aided keys.

KONFERENCIJE I SEMINARI

2019 – Ghent, Belgija: SETAC Europe, 2019.
Application of low-cost CO2 sensor systems as a tool for continuous uptake/emission measurements in Lemna toxicity tests

Predavanje

2018 – The 1st International Earthworm Congress (IEC 1), Šangaj, Kina
The determination of earthworm species with a software key

Predavanje

2018 – SETAC Europe 28th Annual Meeting Rim, Italija
Assessing toxicity to Daphnia magna using movement parameters

Poster

18/09/2015 – 23/09/2015 – Sveti Martin na muri | 12. Biološki kongres
Sustav za multispektralnu analizu vegetacije za biološka i ekološka istraživanja

Predavanje
http://www.hbd-sbc.hr/wordpress/wp-content/uploads/2013/07/12Kongres-Abstracts.pdf

18/09/2015 – 23/09/2015 – Sveti Martin na Muri | 12. Biološki kongres
ErIK: SOFTVERSKA PLATFORMA ZA IDENTIFIKACIJU GUJAVICA HRVATSKE

Poster

http://www.hbd-sbc.hr/wordpress/wp-content/uploads/2013/07/12Kongres-Abstracts.pdf

PROJEKTI

20/11/2020 – TRENUTAČNO
KK.05.1.1.02.0008. Prilagodba mjera kontrole populacije komaraca klimatskim promjenama u Hrvatskoj