

# СПИСЪК НА НАУЧНИТЕ ПУБЛИКАЦИИ

на Галина Димитрова Момчева

кандидат за конкурс за заемане на академичната длъжност „доцент“  
по професионално направление 4.6. „Информатика и компютърни науки“ (Архитектури на невронни мрежи)  
обявен ИМИ-БАН (ДВ, бр. 69 (80.) / 11.08.2023 г.)

## А.МОНОГРАФИЯ

### **Artificial Neural Networks: Modelling, Engineering and Design**

*(Architectures, Models, Approaches, Methods, Perspectives)*

Varna Free University “Chernorizetz Hrabar”, University Publishing House, ISBN 978-954-715-752-1

## **В.Научни публикации в издания, които са реферирани и индексирани в световноизвестни бази данни с научна информация**

### **1. Fuzzy U-Net Neural Network Design for Image Segmentation**

Kirichev, M., Slavov, T., **Momcheva, G.**

Lecture Notes in Networks and Systems, 2022, 374 LNNS, pp. 177–184

ISSN 23673370

ISBN 978-303096637-9

DOI 10.1007/978-3-030-96638-6\_19

**Scopus SciVal Topics** Object Detection; Deep Learning; IOU

**Web of Science Research Areas** Computer Science Engineering Mathematical & Computational Biology

**Web of Science Categories** Computer Science, Theory & Methods Engineering, Biomedical Mathematical & Computational Biology

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-85127068667&doi=10.1007%2f978-3-030-96638-6\\_19&partnerID=40&md5=9c117fdf62ac0dcd76de7ae844a937c6](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85127068667&doi=10.1007%2f978-3-030-96638-6_19&partnerID=40&md5=9c117fdf62ac0dcd76de7ae844a937c6)

<https://www.webofscience.com/wos/woscc/full-record/WOS:000841720600019>

Open access

### **2. Fuzzy U-Net Neural Network Architecture Optimization for Image Segmentation**

Kirichev, M.M., Slavov, T.S., **Momcheva, G.D.**

IOP Conference Series: Materials Science and Engineering, 2021, 1031(1), 012077

ISSN 17578981

DOI 10.1088/1757-899X/1031/1/012077

**Scopus SciVal Topics** Object Detection; Deep Learning; IOU

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85101690183&doi=10.1088%2f1757-899X%2f1031%2f1%2f012077&partnerID=40&md5=d4517006f3a75a709660c163e269be65>

3. **Sentiment detection with FedMD: Federated learning via model distillation**

Tsankova, P., Momcheva, G.

CEUR Workshop Proceedings, 2020, 2656, pp. 236–247

ISSN 16130073

**Scopus SciVal Topics** Embedding; Named Entity Recognition; Entailment

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85090885726&partnerID=40&md5=900142da089b31f895ec94f18532e229>

Open access

4. **Hyperparameter adjustment in regression neural networks for predicting support case durations**

Hristov, H., Momcheva, G.

AIP Conference Proceedings, 2021, 2333, 070015

ISSN 0094243X

ISBN 978-073544077-7

DOI 10.1063/5.0041936

**Web of Science Research Areas** Computer Science Mathematics Science & Technology - Other Topics

**Web of Science Categories** Computer Science, Theory & Methods Mathematics, Applied Mathematics, Interdisciplinary Applications Multidisciplinary Sciences

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85102741082&doi=10.1063%2f5.0041936&partnerID=40&md5=921b6cd22b8b7a236f504b3f172964fc>

<https://www.webofscience.com/wos/woscc/full-record/WOS:000664205600083>

5. **Sustainability of Research-based Ecosystem**

Ivanova, A., Momcheva, G., Zhekova, R., Tankova, E., Pavlov, S.

AIP Conference Proceedings, 2022, 2505, 060008

ISSN 0094243X

ISBN 978-073544396-9

DOI: 10.1063/5.0100707

**Scopus SciVal Topics** Regional Innovation Systems; Firm; Innovation Networks

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85139012287&doi=10.1063%2f5.0100707&partnerID=40&md5=cbc297ebbc0415cdd0c96033cc64086a>

6. **Gabor Features for the Classification and Evaluation of Chromogenic In-Situ Hybridization Images**

Pavlov, S., Momcheva, G., Burlakova, P., Atanasov, S., Stoyanov, D., Ivanov, M., Tonchev, A.

Lecture Notes in Networks and Systems, 2022, 374 LNNS, pp. 375–383

ISSN 23673370

ISBN 978-303096637-9

DOI 10.1007/978-3-030-96638-6\_39

**Scopus SciVal Topics** In Situ Hybridization; First Cervical Vertebra; Animals

**Web of Science Research Areas** Computer Science Engineering Mathematical & Computational Biology

**Web of Science Categories** Computer Science, Theory & Methods Engineering, Biomedical Mathematical & Computational Biology

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-85127052692&doi=10.1007%2f978-3-030-96638-6\\_39&partnerID=40&md5=54f3ee999f44fbcae47b3f73cf220dff](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85127052692&doi=10.1007%2f978-3-030-96638-6_39&partnerID=40&md5=54f3ee999f44fbcae47b3f73cf220dff)

<https://www.webofscience.com/wos/woscc/full-record/WOS:000841720600039>

Open access

7. **Feasibility of Haralick's Texture Features for the Classification of Chromogenic In-situ Hybridization Images**

Pavlov, S., Momcheva, G., Burlakova, P., Atanasov, S., Stoyanov, D., Ivanov, M., Tonchev, A.  
Proceedings of the International Conference on Biomedical Innovations and Applications, BIA 2020, pp. 65–68, 9244282

ISBN 978-172817073-2

DOI 10.1109/BIA50171.2020.9244282

**Scopus SciVal Topics** In Situ Hybridization; First Cervical Vertebra; Animals

**Web of Science Research Areas** Computer Science Engineering

**Web of Science Categories** Computer Science, Artificial Intelligence Engineering, Biomedical

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85096812623&doi=10.1109%2fBIA50171.2020.9244282&partnerID=40&md5=1f9e07f8bc90c0839da5b32c1057b8fa)

[85096812623&doi=10.1109%2fBIA50171.2020.9244282&partnerID=40&md5=1f9e07f8bc90c0839da5b32c1057b8fa](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85096812623&doi=10.1109%2fBIA50171.2020.9244282&partnerID=40&md5=1f9e07f8bc90c0839da5b32c1057b8fa)

<https://www.webofscience.com/wos/woscc/full-record/WOS:000684561600017>

Open access

8. **Text and source readability-A step to cognition**

Momcheva, G., Spasova, V., Ivanova, A., Zhelyazkov, M.

AIP Conference Proceedings, 2021, 2333, 070013

ISSN 0094243X

ISBN 978-073544077-7

DOI 10.1063/5.0042068

**Scopus SciVal Topics** Wikipedia; Social Networking; Online Communities

**Web of Science Research Areas** Computer Science Mathematics Science & Technology - Other Topics

**Web of Science Categories** Computer Science, Theory & Methods Mathematics, Applied Mathematics, Interdisciplinary Applications Multidisciplinary Sciences

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85102768420&doi=10.1063%2f5.0042068&partnerID=40&md5=0f0122fb734561245c30c162f1c247f7)

[85102768420&doi=10.1063%2f5.0042068&partnerID=40&md5=0f0122fb734561245c30c162f1c247f7](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85102768420&doi=10.1063%2f5.0042068&partnerID=40&md5=0f0122fb734561245c30c162f1c247f7)

<https://www.webofscience.com/wos/woscc/full-record/WOS:000664205600099>

9. **Application of process mining approach to the developmental process of the roundworm C. elegans**

Chervenkov, T., Pavlov, S., Marinov, D., Hristov, H., Momcheva, G.

Proceedings of the International Conference on Biomedical Innovations and Applications, BIA 2021, pp. 51–53

ISBN 978-166544581-8

DOI 10.1109/BIA52594.2022.9831332

**Scopus SciVal Topics** Process Mining; Enterprise Resource Management; Petri Nets

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85136162591&doi=10.1109%2fBIA52594.2022.9831332&partnerID=40&md5=33650d7ded3f0f37fd6b091bc3cf6969)

[85136162591&doi=10.1109%2fBIA52594.2022.9831332&partnerID=40&md5=33650d7ded3f0f37fd6b091bc3cf6969](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85136162591&doi=10.1109%2fBIA52594.2022.9831332&partnerID=40&md5=33650d7ded3f0f37fd6b091bc3cf6969)

10. **Survey of Information Technology Undergraduate Degree Programs in Canada**

Marinova, R., Momcheva, G.

2019 IEEE Canadian Conference of Electrical and Computer Engineering, CCECE 2019, 8861715

ISBN 978-172810319-8

DOI 10.1109/CCECE.2019.8861715

**Scopus SciVal Topics** Education; Land Information System; Informatician

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85074102341&doi=10.1109%2fCCECE.2019.8861715&partnerID=40&md5=ed3c4e9f2b677a1fe625ae965167f04f)

[85074102341&doi=10.1109%2fCCECE.2019.8861715&partnerID=40&md5=ed3c4e9f2b677a1fe625ae965167f04f](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85074102341&doi=10.1109%2fCCECE.2019.8861715&partnerID=40&md5=ed3c4e9f2b677a1fe625ae965167f04f)

11. **Vendor Cybersecurity Risk Assessment in an Autonomous Mobility Ecosystem**

Tzoneva, A., Momcheva, G., Stoyanov, B.

10th International Scientific Conference on Computer Science (COMSCI), 2022

ISBN 978-166549777-0

DOI 10.1109/COMSCI55378.2022.9912588

Scopus SciVal Topics Built Environment; Mode Choice; Urban Form

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85141428914&doi=10.1109%2fCOMSCI55378.2022.9912588&partnerID=40&md5=5b0083a2824592b0ef5114a43a1ff688>

12. **Voronoi Diagrams and Perlin Noise for Simulation of Irregular Artefacts in Microscope Scans**

Alreni, A., Momcheva, G., Pavlov, S.

9th International Conference on Bioimaging, Proceedings of the 15th International Joint Conference on Biomedical Engineering Systems and Technologies - (Volume 2), pp. 117-122, 2022

DOI 10.5220/0010833 000003123

ISSN ISBN 978-989-758-552-4

Web of Science Research Areas Engineering Radiology, Nuclear Medicine & Medical Imaging

Web of Science Categories Engineering, Biomedical Radiology, Nuclear Medicine & Medical Imaging

<https://www.webofscience.com/wos/woscc/full-record/WOS:000778898600012>

13. **Advanced Image Processing Techniques for the Detection and Monitoring of TV Datacenter System**

Fakhreddine, M., Bakardjieva, T., Momcheva, G.

2022 4th International Conference on Electrical, Control and Instrumentation Engineering (ICECIE), 2022

ISSN 28329821

ISBN 978-166548076-5

DOI 10.1109/ICECIE55199.2022.10000322

Scopus SciVal Topics Event Detection; Twitter; Social Networking

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85147994796&doi=10.1109%2fICECIE55199.2022.10000322&partnerID=40&md5=fa1256fce5bd728ae3a002db3e7878ab>

Open access

14. **Utilising Autoencoders for Analysis and Classification of Microscopic In Situ Hybridisation Images**

Yanev, A., Momcheva, G., Pavlov, S.

приета за публикуване в Proceedings of the Bulgarian Academy of Sciences на 26.09.2023, Vol. 76 No. 10 (2023)

ISSN 1310–1331 (Print), 2367–5535

<https://www.proceedings.bas.bg/index.php/cr>

Open access

15. **Multi-Activation Dendritic Neural Network (MA-DNN) working example of Dendritic-Based Artificial Neural Network**

Tomov, K., Momcheva, G.

Cybernetics and Information Technologies Journal, pp 145-162, 3/2023

<https://cit.iict.bas.bg/CIT-2023/CIT-2023-3.html>

DOI: 10.2478/cait-2023-0030

ISSN 1311-9702 Online ISSN 1314-4081