

## PERSONAL INFORMATION

## Angel Cațaron

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Date of birth 30 September 1971 | Nationality Romanian

RELEVANT WORK  
EXPERIENCE

March 1997 – Present

## Lecturer

Transylvania University of Brașov (Romania)

Responsibilities:

- Teaching Programming languages, Computational intelligence, Databases;
- Supervising diploma projects for BSc and MSc students;
- Activities related with data mining, knowledge engineering, machine learning, data analytics.

1996 – 1997

## Software developer

SC NETLOGIC Computers SRL, Brașov (Romania)

Working in a team that developed Match Manager, a software system dedicated to economical operations in the medium sized enterprises, for Match Eurosoft France (the company was acquired by Sage France in 2000).

## EDUCATION

2004

## PhD

Politehnica University of Bucharest, (Romania)

The subject of the thesis is in the field of computational intelligence with a focus on data mining. The automatic recognition and classification of patterns can be performed by the systems capable to learn. When the amount of available data is large, the learning process may become slowly which is critical if the results must be provided in real time. For accelerating this process, the useless pieces of raw data can be discarded with a little or even no performance loss in recognition or classification. The thesis presents a new method to set the ranking between the components of the feature vectors in the multidimensional datasets so the lower ranking, the less relevant data.

1996

## MSc

Politehnica University of Bucharest, Faculty of Electronics, Telecommunications and Information Technology, (Romania)

MSc in computational intelligence including a 4 months TEMPUS grant to the University of Ulster at Jordanstown, Northern Ireland for the preparation of dissertation. The research area was in the field of speech and speaker recognition with neural networks.

1995

## BSc

Transilvania University of Brașov, Faculty of Electrical Engineering and Computer Science, (Romania)

The main field of the engineering programme was the embedded systems and the particular topic of my preparation was in the area of the software engineering. The final diploma research was done on neural networks.

## RESEARCH

## Research projects

Manager of the project CNCSIS no. 989/2007, contract no. 4GR/28.05.2007: "Research on the differentiate influence of inputs in the training of automatic classification systems based on neural

networks with applications in data mining”.

### Recent papers

Angel Cațaron, Razvan Andonie. "Transfer Information Energy: A Quantitative Causality Indicator between Time Series". 26th International Conference on Artificial Neural Networks ICANN 2017, Alghero, Sardinia, Italy, September 11 – 14, 2017.

Angel Cațaron, Razvan Andonie, Yvonne Chueh. "Asymptotically Unbiased Estimation of a Nonsymmetric Dependence Measure Applied to Sensor Data Analytics and Financial time Series". International Journal of Computers, Communication & Control, vol. 12, no. 4, pp. 475-491, 2017. ISSN 1841-9836. DOI: <http://dx.doi.org/10.15837/ijccc.2017.4.2928>.

Yvonne Chueh, Angel Cațaron, Razvan Andonie. "Mortality rate modeling of joint lives and survivor insurance contracts tested by a novel unilateral dependence measure". 2016 IEEE Symposium Series on Computational Intelligence (SSCI), December 6-9, 2016, Athens, Greece, pp. 1-8. keywords: {Density measurement;Energy measurement;Entropy;Estimation;Insurance;Probability density function;Random variables}, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&number=7850023&isnumber=7849361>. DOI: 10.1109/SSCI.2016.7850023.

Angel Cațaron, Razvan Andonie, Yvonne Chueh. "Financial Data Analysis using The Informational Energy Dependency Measure". Proceedings of the International Joint Conference on Neural Networks, (IJCNN 2015), Killamey, Ireland, July 12-17, 2015. DOI: 10.1109/IJCNN.2015.7280734.

Angel Cațaron, Razvan Andonie, Yvonne Chueh. "kNN Estimation of The Unilateral Dependency Measure between Random Variables". Proceedings of the 2014 IEEE Symposium on Computational Intelligence and Data Mining (CIDM 2014), IEEE Symposium Series on Computational Intelligence (SSCI), December 9-12, 2014, Orlando, Florida, pp. 471-478, ISBN 978-1-4799-4519-1. DOI: 10.1109/CIDM.2014.7008705.

Radu Andreiu, Radu Coliban, Angel Cațaron, Mihai Ivanovici "Pattern-Based Rough Segmentation of Satellite Images Using Evolutionary algorithms". Proceedings of the ESA-EUSC-JRC 9th Conference on Image Information Mining, Bucharest, Romania, March 5-7, 2014, pp. 45-48.

Angel Cațaron, Răzvan Andonie, Yvonne Chueh "Asymptotically Unbiased Estimator of the Informational Energy with kNN". International Journal of Computers, Communication & Control, vol. 8, no. 5, pp. 689-698, 2013. ISSN 1841-9836.

Angel Cațaron, Răzvan Andonie "How To Infer The Informational Energy from Small Datasets". Proceedings of the 13th International Conference on Optimization of Electrical and Electronic Equipments: Optim 2012, Brasov, Romania, May 24-26, 2012, pp. 1065-1070.

Angel Cațaron, Răzvan Andonie "Energy Supervised Relevance Neural Gas for Feature Ranking". Neural Processing Letters, Springer Netherlands, vol. 32, no. 1, 2010, pp. 59-73. ISSN 1370-4621 (Print) 1573-773X (Online). DOI 10.1007/s11063-010-9143-z.

## PERSONAL SKILLS

**Mother tongue(s)** Romanian  
**Other language(s)** English: very good level of listening, reading, spoken interaction, spoken production and writing;  
 French: very good level of listening, reading, spoken interaction, spoken production and writing;  
 German: basic use.

**Communication skills** - Good ability to adapt to multicultural environments gained through my work in international teams;  
 - Good communication skills and ability to deliver presentations to non-technical audience acquired through my consulting experience.

**Organisational / managerial skills** - Experience in leading teams.

**Job-related skills** - Ability to handle, to understand or to learn mathematical notions, proved by my qualifications;  
 - Research experience with statistics, estimators, machine learning and big data;  
 - Ability to work in a team or independently.

- Computer skills
- Experience with programming languages: Java, C++, Python;
  - Experience with MS SQL, Oracle;
  - Interfacing with SAP systems via iDocs;
  - Hands on experience with R and MatLab;
  - Experience with 3-tiers architectures;
  - Experience with the Microsoft Office suite.