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Education

Doctor of Science in Computer Science, University of Neuchâtel, Switzerland, December 1997. Title: *Apprentissage en recherche d'informations (Learning in Information Retrieval)*.
Diploma in Computer Science, University of Neuchâtel, Switzerland, 1994.
Diploma in Mathematics, Specialized in Computer Science, University of Iasi, Romania, 1993.

Professional Experience

Assistant Professor of Computer Science, 2001-present, *IUSB, Computer and Information Sciences Department*.

Postdoc, 1998 – 2000, Laboratory of Applied Analysis, Department of Mathematics, *Federal Polytechnic School of Lausanne (EPFL)*, Lausanne, Switzerland.

Doctoral Fellow, 1994 - 1997 FNRS, Swiss National Science Foundation doctoral fellow under grant 20-43'217.95, *Computer Science Department, University of Neuchâtel*, Switzerland.

Teaching and Research Assistant, 1993 - 1998, *Computer Science Department, University of Neuchâtel, Switzerland*.

Software Analyst, 1992-1994, *T&U*, Neuchâtel, Switzerland.

Teacher, 1990-1991, *Technical Business College*, Iasi, Romania.

Teaching Experience

CSCI C101	Computer Programming I
CSCI C201	Computer Programming II
CSCI C243	Data Structures
CSCI C151	Multi-User Operating Systems
CSCI C251	Foundations of Digital Computing
CSCI C455/B503	Algorithms Analysis
CSCI C481/B581	Interactive Computer Graphics
CSCI B424/B524	Parallel and Distributed Programming
CSCI B582	Image Synthesis
CSCI B583/C490	Game Programming and Design

CSCI B551/C463 Artificial Intelligence

CSCI A106 Introduction to Computing

Publications

Refereed Publications

D. Vrajitoru (2006): NPCs and Chatterbots with Personality and Emotional Response. Accepted for the *IEEE Symposium on Computational Intelligence and Games (CIG 2006)*, Reno/Lake Tahoe, May 22-24.

D. Vrajitoru (2006): Natural Selection and Mating Constraints with Genetic Algorithms. Accepted by the *International Journal of Modeling and Simulation*.

H. Rababaah, J. Wolfer, D. Vrajitoru (2005): Asphalt Pavement Crack Classification: a Comparison of GA, MLP, and SOM. *Proceeding of the Genetic and Evolutionary Computation Conference (GECCO'05 and SIGEVO 1)*, Washington, DC, June25-29, 2005, late breaking papers.

D. Vrajitoru, J. DeBoni (2005): Hybrid Real-Coded Mutation for Genetic Algorithms Applied to Graph Layouts. *Proceeding of the Genetic and Evolutionary Computation Conference (GECCO'05 and SIGEVO 1)*, Washington, DC, June25-29, 2005, 1563-1564.

D. Vrajitoru, R. Mehler (2005): Multi-Agent Autonomous Pilot for Single-Track Vehicles. *Proceedings of the IASTED Conference on Modeling and Simulation*, Oranjestad, Aruba, August 29-31, 2005, 85-90.

D. Vrajitoru, J. DeBoni (2005): Consistent Graph Layout for Weighted Graphs. Presented at the *The 3rd ACS/IEEE International Conference on Computer Systems and Applications*, January 3-5, 2005, Cairo, Egypt.

D. Vrajitoru, R. Mehler (2004): Multi-Agent Autonomous Pilot for Motorcycles. *IEEE Region 4 Electro/Information Technology Conference (EIT2004).*

D. Vrajitoru, J. DeBoni (2004): Consistent Weighted Graph Layouts. *Graph Theory 2004*, poster presentation, Paris, July 5-9, 2004, 93-94.

D. Vrajitoru (2004): Intra and Extra-Generation Schemes for Combining Crossover Operators. *Midwest Artificial Intelligence and Cognitive Science Conference 2004*, 86-91.

D. Vrajitoru, J. Ratkiewicz (2004): Evolutionary Sentence Combination for Chatterbots. *The IASTED International Conference on Artificial Intelligence and Applications (AIA 2004)*, Innsbruck, Austria, February 16-18, ACTA Press, 287-292.

D. Vrajitoru (2003): Evolutionary Sentence Building for Chatterbots. *GECCO 2003*, Late Breaking Papers, 315-321.

R. Paffenroth, D. Vrajitoru, T. Stone, and J. H. Maddocks (2002): DataViewer: A Scene Graph Based Visualization Library. *The 5th IASTED Conference on Computer Graphics and Imaging (CGIM 2002)*, ACTA Press, 200-205.

D. Vrajitoru (2002): Simulating Gender Separation with Genetic Algorithms. *Genetic and Evolutionary Computation Conference 2002*, Morgan Kaufmann Publishers, 634-641.

R. Paffenroth, D. Vrajitoru, T. Stone, and J. H. Maddocks (2002): DataViewer: A Scene Graph Based Visualization Tool. *The 20th Eurographics UK Conference*, IEEE Computer Society Publications, 147-148.

D. Vrajitoru (2001): Parallel Genetic Algorithms Based on Coevolution. *Genetic and Evolutionary Computation Conference 2001*, Late Breaking Papers, 450-457.

D. Vrajitoru (2001): Nested Genetic Algorithms with Problem Division. *Genetic and Evolutionary Computation Conference 2001*, 787.

D. Vrajitoru (1999): Genetic Programming Operators Applied to Genetic Algorithms. *Genetic and Evolutionary Computation Conference 99*, 686-693.

D. Vrajitoru (1998): Crossover Improvement For The Genetic Algorithm In Information Retrieval. *Information Processing and Management* , 34(4), 405-415.

D. Vrajitoru (1997): Genetic Algorithms in Information Retrieval. *AIDRI97: Learning; From Natural Principles to Artificial Methods*. , Geneva, Switzerland, June 1997.

J. Savoy, A. Le Calvé, D. Vrajitoru (1996): Report on the TREC-5 Experiment: Data Fusion and Collection Fusion. *Proceedings TREC'5*, NIST Publication 500-238, Gaithersburg (MD), 489-502.

J. Savoy, M. Ndarugendamwo, D. Vrajitoru (1995) : Report on the TREC-4 Experiment: Combining Probabilistic and Vector-Space Schemes. *Proceedings TREC'4*, NIST, Gaithersburg (MD), October 1995, 537-547.

J. Savoy, M. Ndarugendamwo, D. Vrajitoru (1994) : Report on the TREC-3 Experiment: A Learning Scheme in a Vector Space Model. *Proceedings TREC'3*, NIST, publication 500-225, Gaithersburg (MD), April 1994, 361-372.

Technical Reports

D. Vrajitoru (2005): *Simulating Gender Separation and Mating Constraints for Genetic Algorithms.* Indiana University South Bend, Computer and Information Sciences Department, Technical Report TR-20050520-1.

D. Vrajitoru (2004): *Consistent Graph Layout for Weighted Graphs by a Force-Based Probabilistic Algorithm*. Indiana University South Bend, Computer and Information Sciences Department, Technical Report TR-20040305-1.

D. Vrajitoru, P.-J. Erard (1994): *Facial Animation by Digitalized Image Deformation*. University of Neuchâtel, Switzerland.

Submitted

D. Vrajitoru, P. Konnanur, and R. Mehler (2005): Genetic Algorithms for a Single-Track Vehicle Autonomous Pilot. Submitted to *Control and Intelligent Systems.*

Presentations

Probabilistic Algorithms for Graph Positioning. Talk for the Graduate Student Welcome Night, ACM society, IUSB student chapter, November 14, 2002.

From Chatterbots to Virtual Agents. Presentation for the Cognitive Science Committee, IUSB, January 31, 2003.

Motorcycle Simulation. demo, IUSB, Make IT Happen, April 2004. Short interview for WNDU on the same occasion.

Motorcycle Simulation and Automatic Piloting. Oral presentation and poster, IUSB, Biomorphic Computing & the Mutable Body, November 8, 2005.

Grants

IUSB Faculty Research Grant for the project *Consistent Graph Layouts by Hybrid Genetic Algorithms*, $8000.00, 2004.

IUSB Curriculum Development Grant for *B424 Parallel and Distributed Programming*, $3000.00, 2002.

Professional Membership

- The Association for Computing Machinery (ACM) society
- The Special Interest Group in Graphics (SIGGRAPH), chapter of the ACM
- The Institute for Electrical Engineering and Electronics (IEEE)
- The Eurographics Society (EG)
- The International Society on Genetic and Evolutionary Computation (ISGEC)
- The International Association of Science and Technology for Development (IASTED)

Service

Committees

- Graduate committee for the M.S. in Applied Mathematics and Computer Science, 2001-2006.
- Curriculum committee for the M.S. in Applied Mathematics and Computer Science, 2001-2006.
- Search and Screen Committee for the position of Laboratory Manager for the Informatics Program, 2003.
- Search and Screen Committee for the position of Assistant Professor in Computer Science, 2001, 2003, 2004, 2005.
- Search and Screen Committee for the position of Assistant Professor in Informatics, 2003, 2004, 2005.
- Search and Screen Committee for the position of Assistant Professor in Mathematics, external member, 2005.

- Lab Committee, chair, 2001-2006.
- Intelligent Systems Laboratory, director and web master, 2003-2006.
- Cognitive Science Committee, 2003-2006.
- CS Research Committee, 2003-2004.
- The LAS Promotion and Tenure for Lectures Committee, 2004-2005.
- The Graduate Liberal Studies Committee, 2005-2006.
- The IUSB SMART Grant Committee, 2005-2006.

Advising

- C101 Computer Programming I Placement exam, 2002-2006.
- Review of applications for the AMCS graduate program, 2002-2006.
- Two of the Fall 2005 New Student Orientation sessions.

Mentoring

- Thesis advisor for 4 students for the AMCS Master of Science program.
- Member of the graduate thesis committee for 2 students in the AMCS Master of Science program.
- 3 undergraduate students participated in my research projects.
- Coach for the IUSB teams participating in the ACM Collegiate Programming Competition, the East Central North American regional in 2003, 2004, and 2005.

Research Interests

- Genetic and evolutionary algorithms
- Modeling and simulation
- Visualization
- Graph drawing and theory
- Chatterbots and natural language processing
- Algorithms
- Software development