

## Pawel Matykiewicz

Division of Biomedical Informatics

Cincinnati Children's Hospital Medical Center

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Ohio 45229

USA

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### EDUCATION

*Nicholaus Copernicus University, Torun, Poland*

**Ph.D. Student**

**2003-2009**

Thesis title: "Neurocognitive approach to medical text processing" (proposal defended)

Field of study: Natural Language Processing

*Adam Mickiewicz University, Poznan, Poland*

**Master of Philosophy**

**1998-2003**

Thesis title: "High-dimensional discrete dynamical systems as an associative memory"

Field of study: Cognitive Philosophy

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### WORKING EXPERIENCE

**Nicholaus Copernicus University, Torun, Poland, 2003-2005**

Position: Graduate Assistant

**Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, USA, 2005-2007**

Position: Graduate Student

**Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, USA, 2007-2008**

Position: Research Assistant III

**Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, USA, 2008-2009**

Position: Research Assistant IV

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### INTERNATIONAL CONFERENCES ATTENDANCE

*Zakopane, Poland, June 7-11, 2004*

**International Conference on Artificial Intelligence and Soft Computing ICAISC 2004**

*Budapest, Hungary, July 26-29, 2004*

**International Joint Conference on Neural Networks IJCNN 2004**

*Washington, DC, USA, November 11-15, 2006*

**American Medical Informatics Association Annual Symposium AMIA 2006**

*Oxford, OH, USA, July 9-11, 2007*

**Ohio Collaborative Conference on Bioinformatics OCCBIO 2007**

*Columbus, Ohio, USA, June 16-18, 2008*

**The 46<sup>th</sup> Annual Meeting of the Association for Computational Linguistics ACL 2008**

*Washington, DC, USA, November 8-12, 2008*

**American Medical Informatics Association Annual Symposium AMIA 2008**

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### PUBLICATIONS AND PAPERS

**P. Matykiewicz**, *Properties of a Chaotic Neural Network Separating Memory Patterns*, International Joint Conference on Neural Networks IJCNN 2004, Vol. 2, IEEE Press 2004, pp. 931-934

**P. Matykiewicz**, *Chaotic Itinerancy for Patterns Separation*, Artificial Intelligence and Soft Computing ICAISC 2004, Vol. 3070 Springer 2004, pp. 235-240

**W. Duch, P. Matykiewicz**, *Minimum Spanning Trees Displaying Semantic Similarity*, Intelligent Information Processing and Web Mining, Advances in Soft Computing, Springer 2005, pp. 31-40

**P. Matykiewicz, W. Duch, J. Pestian**, *Nonambiguous Concept Mapping in Medical Domain*, Artificial Intelligence and Soft Computing ICAISC 2006, Vol. 4029, Springer 2006, pp. 941-950

**P. Matykiewicz, J. Pestian, W. Duch, N. Johnson**, *Unambiguous Concept Mapping in Radiology Reports: Graphs of Consistent Concepts*, AMIA Annual Symposium Proceedings, Vol. 2006, AMIA 2006, pp. 1024-1024

**J. Rajan, K. C. Davis, P. Matykiewicz, W. Duch, J. Pestian**, *Medical Acronym Disambiguation Using Online Sources*, International Conference on Enterprise Information Systems and Web Technologies, 2007, ISRST, pp. 123-130

**W. Duch, P. Matykiewicz, J. Pestian**, *Neurolinguistic Approach to Vector Representation of Medical Concepts*, International Joint Conference on Neural Networks IJCNN 2007, IEEE Press 2007, pp. 3110-3115

**W. Duch, P. Matykiewicz, J. Pestian**, *Towards Understanding of Natural Language: Neurocognitive Inspirations*, International Conference on Artificial Neural Networks ICANN 2007, Vol. 4668, Springer 2007, pp. 953-962

**J. Pestian, C. Brew, P. Matykiewicz, DJ Hovermale, N. Johnson, K. Cohen, W. Duch**, *A Shared Task Involving Multi-label Classification of Clinical Free Text*, Biological, translational, and clinical language processing, ACL 2007, pp. 97-104

**W. Duch, P. Matykiewicz, J. Pestian**, *Neurolinguistic Approach to Natural Language Processing with Applications to Medical Text Analysis*, Neural Networks, 2008, in print

**J. Pestian, P. Matykiewicz, A. Leenaars, J. Grupp-Phelan, S. A. Lavanier, J. Combs, R. Kowatch**, *Using Natural Language Processing to Classify Suicide Notes*, Proceedings of the Workshop on Current Trends in Biomedical Natural Language Processing, ACL 2008, pp. 96-97

**P. Matykiewicz, W. Duch, P. Zender, K. Cruthcher, J. Pestian**, *Neurocognitive approach to clustering of PubMed query results*, Neural Information Processing 15th International Conference, ICONIP 2008, New Zealand, Springer 2008, in print

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### PROJECTS

EPILEPSY SYNDROMES CLUSTERING – Natural Language Processing and cluster analysis (with CCHMC and ILAE)

VISUAL LANGUAGE SYSTEM – PubMed Literature Based Discovery (with UC DAAP)

CHRISTINE – Personalized Therapy Decision Support System (with CCHMC Neurology)

SUICIDE PREDICTION – Natural Language Processing of suicidal speech with biomarkers (with CCHMC Psychiatry)

PATHOLOGY REPORTS – Natural Language Processing of pathology and surgery notes (with OSU CTSA)

EMERGENCY CLINICAL CARE – Finding differences between referrals and non-referrals (with CCHMC ED)