PIOTR LASEK

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EDUCATION

Warsaw University of Technology, Poland: Ph.D. / Data Mining (2005 – 2012)

Warsaw University of Technology, Poland: M.Sc. Eng. / Computer Science (1999 – 2004)

EXPERIENCE

York University, Toronto: *Postdoctoral Fellow* (August 2014 – July 2016)

- *Researching* interactive visualization of big data, and clustering of high dimensional data sets. *Implementing* and *testing* prototype tools, *writing* technical reports and scientific papers, *supervising* research assistants.

Rzeszów University, Rzeszów: *Assistant Professor* (October 2012 – present)

- *Research interests*: Data Mining, density-based clustering, clustering with constraints and knowledge-based clustering.
- *Courses taught*: Introduction to Data Mining, Parallel and Distributed Programming, Software Engineering, Mobile Databases.
- *Other responsibilities*: secretary of the local Rough Set and Petri Net research group, departmental coordination of the ERASMUS program.

Warsaw University of Technology, Warsaw: *Research & Teaching Intern* (2014)

- *Supervised* and supported a group of students working on data mining assignments.
- *Developed* constraint-based clustering algorithms.

EccSoft / Aditeo, Rzeszów: *Software Design Engineer* (September 2010 – July 2012)

- *Designed* and responsible for tests of financial, accounting and registration software applications.
- *Led* and coordinated work of a group of several developers.

Nokia, Tampere: *Software Design Engineer* (September 2009 – August 2010)

- *Analyzed* source code of mobile applications, troubleshoot problems related to software design of currently developed projects, *designed* components to be implemented, collaborated with other peers and programmers.

Comarch, Kraków: *Senior Software Developer* (August 2007 – August 2009)

- *Implemented* (as a member of a group of developers) crucial modules of mobile software for one of the world's leading suppliers of smartphones.
- *Participated* in all lifecycle stages (designing, coding, defect-fixing) of the development.

Motorola, Kraków: *Software Developer* (September 2006 – July 2007)

- *Collaborated* as a team member in a department responsible for developing and maintenance of mobile radio software.
- *Underwent* numerous training in: quality management, software development processes, and security programming.

m-Core, Warsaw: *Software Developer* (June 2004 – August 2005)

- *Designed* and developed of sales software applications designed for mobile platforms such as Palm OS and Windows Mobile.

RESEARCH PROJECTS

York University, Toronto: *Interactive visualization of large datasets* (August 2014 – July 2016)

- The goal of the project is to design and implement a prototype engine for interactive data visualization. We are designing the engine as a tightly-coupled system using a hierarchical aggregate pyramid structure for aggregating data in truthful and meaningful ways. We have proposed a novel approach for designing visualizations based on novel concepts of aggregates.

University of Rzeszów: *Nonstandard methods of data clustering* (August 2014 – July 2016)

- Clustering is one of the best-known and often used data mining methods. Its goal is to assign data objects (or points) to different clusters so that objects that were assigned to the same clusters are more similar to each other than to objects assigned to other clusters. Constraints allow one to incorporate expert knowledge into clustering algorithms which, in certain cases, can improve the quality of clustering results. We adapted and tested several versions of clustering algorithms to work with instance-level constraints.

Warsaw University of Technology: *Mining data in large data resources* (2005 – 2008)

- The project was devoted to designing efficient methods and indices based on the triangle inequality property. The result of the work was employed for determining nearest neighbors in density-based clustering algorithms, which improves their performance significantly.

Warsaw University of Technology: *Analysis of marketing information for small and medium sized enterprises* (2005 – 2007)

- AMI-SME was a EU-funded project that aimed to structure and automate the identification, gathering and analysis of market information. It was designed to support the

internationalization process of small and medium-sized enterprises. AMI-SME designed and implemented a software prototype for a domain model assisted Internet search with integrated document storage and knowledge organization. AMI-SME software supports systematic search activities that go beyond single-step retrieval.

Warsaw University of Technology: *Semi automated ontology building* (2005 – 2008)

- The Text-Onto-Miner project was undertaken by the Institute of Computer Science at the Warsaw University of Technology as a part of research agreement with France Telecom. The project's goal was to create a set of tools—both software and methods—that could be used to speed up and improve the process of creating ontologies.

SELECTED PAPERS

1. Godfrey P., Gryz J., Lasek P.: Interactive Visualization of Large Data Sets, IEEE Transactions on Knowledge and Data Engineering (TKDE), 2016, pp 2142–2157.
2. Godfrey P., Gryz J., Lasek P., Razavi N.: Visualization through Inductive Aggregation, Proceedings of the 19th International Conference on Extending Database Technology, EDBT 2016, Bordeaux, France, March 14-18, 2016
3. Godfrey P., Gryz J., Lasek P., Razavi N.: Interactive Visualization of Big Data, Beyond Databases, Architectures, and Structures: 12th International Conference, BDAS 2016, Ustron, Poland, Springer, 2016.
4. Godfrey P., Gryz J., Lasek P., Razavi N.: Skydive: An Interactive Data Visualization Engine. In IEEE Symposium on Large Data Analytics and Visualization, Chicago, USA, October 25-26., 2015
5. Lasek P.: Instance-Level Constraints in Density-Based Clustering, In Proceedings of the Workshop on Concurrency, Specification and Programming (CS&P 2015), Rzeszów, Poland, 2015
6. Lasek, P.: C-NBC: Neighborhood-Based Clustering with Constraints, In Proceedings of the Workshop on Concurrency, Specification and Programming (CS&P 2014), Chemnitz, Germany, 2014, September 29- October 1, volume 245 of Informatik-Bericht, Humboldt University
7. Lasek, P. CDM: A Prototype Implementation of the Data Mining JDM Standard. Proceedings of the Ninth International Conference on Dependability and Complex Systems DepCoS-RELCOMEX. June 30–July 4, 2014, Brunów, Poland. Springer International Publishing
8. Lasek, P.: An Extended Version of the LVA-Index, Intelligent Data Engineering and Automated Learning – IDEAL 2013 / H. Yin et al. (Eds.), Lecture Notes in Computer Science vol. 8206, 2013, Springer, pp. 127–134.

9. Kryszkiewicz, M., & Lasek, P. 2010. A Neighborhood-Based Clustering by Means of the Triangle Inequality. IDEAL 2010, pp. 284-291.
10. Kryszkiewicz, M., & Lasek, P. 2010. TI-DBSCAN: clustering with DBSCAN by means of the triangle inequality. In Proceedings of the 7th international conference on Rough sets and current trends in computing (RSCTC'10), Springer-Verlag, Berlin, Heidelberg, 60-69

RECENT CONFERENCES, VISITS & TALKS

- Interactive Visualization through Inductive Aggregation, Tableau, Seattle, WA, 2016
- The 5th IEEE Symposium on Large Data Analysis and Visualization, Chicago Illinois, October 25-26, 2015
- Sixth Workshop on Big Data Benchmarking (WBDB 2015), June 16-17, 2015, Toronto, Canada
- IBM Centers for Advanced Studies Research University Days, Markham, Ontario, Canada 2014 24th Annual International Conference on Computer Science and Software Engineering (CASCON 2014), Markham, Ontario, Canada
- 23th international Workshop on Concurrency, Specification and Programming (CS&P 2014), Chemnitz, Germany
- The Ninth International Conference on Dependability and Complex Systems DepCoS-RELCOMEX 2015, Brunów, Poland
- The 14th International Conference on Intelligent Data Engineering and Automated Learning (IDEAL'2013), Hefei, China
- European University of Cyprus, ERASMUS Lifelong Learning Programme
- The Ninth International Conference on Dependability and Complex Systems DepCoS-RELCOMEX 2014, Brunów, Poland