

Mikael Zayenz LAGERKVIST

PERSONAL DATA

PLACE AND DATE OF BIRTH: Stockholm | May 5 1981
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WORK EXPERIENCE

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|--------------|---|
| 2011-current | Research and development, Tomologic AB
Research and development in algorithms, optimization, search methods, and heuristics for sheet metal cutting. |
| 2005-2011 | PhD student, KTH - Royal Institute of Technology
20% teaching duties. Courses: Computer Science II; Applied Programming; Compilers and Virtual Machines; Constraint Programming. |
| 2003-2004 | Teaching assistant, KTH - Royal Institute of Technology
Courses: Introduction to Computer Science; Algorithms, Datastructures and Complexity. |

EDUCATION

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| 2005- | PhD studies in Constraint Programming
KTH - Royal Institute of Technology, Stockholm, Sweden
My research area is constraint programming, and in particular constraint propagation systems. Topics include theoretical models for propagation systems, new system architecture for lowering complexity, and practical implementation and evaluation in a realistic system (Gecode). |
| Nov 2008 | Licentiate (Swedish intermediate postgraduate degree)
Thesis: Techniques for Efficient Constraint Programming |
| 2000-2005 | Master of Science and Engineering in Computer Science,
KTH - Royal Institute of Technology, Stockholm, Sweden
Swedish title: Civilingenjör i Datateknik
Specialization: Formal methods
Thesis: Machine Assisted Reasoning for Multi-Threaded Java Bytecode |

PROJECTS

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| GECODE | Constraint programming system, www.gecode.org
One of three main developers of Gecode, an open source constraint programming system. Since the initial release in 2006, Gecode has become widely used in research and teaching, as well as in industry. Gecode won the international MiniZinc Challenge the first five years (2008-2012). |
| KATTIS | Programming contest system
I was involved in the development of the KATTIS programming contest system, including helping out at the ACM ICPC World Finals from 2010 to 2013. The work involved Linux system administration, programming (PHP, python, and Java), and databases (PostgreSQL). |

LANGUAGES

SWEDISH | Mother tongue

ENGLISH | Fluent

COMPUTER SKILLS

PROGRAMMING LANGUAGES | SIGNIFICANT EXPERIENCE: C++, Java, C
REGULARLY USED: MiniZinc, Python, Rust, Unix shell scripting, Scala

SPECIALITIES | Constraint programming systems, optimization systems, library design, compilers, formal methods, multi-threaded and distributed programming

VARIOUS | Gecode, emacs, GNU/Linux (especially Ubuntu), gcc, Git, Mercurial, Django, PostgreSQL, Docker.

PUBLICATIONS

- *Monte Carlo Methods for the Game Kingdomino* Magnus Gedda, Mikael Z. Lagerkvist, and Martin Butler.
In: IEEE Conference on Computational Intelligence and Games 2018. [[pdf](#)]
- *Laser Cutting Path Planning Using CP* Mikael Z. Lagerkvist, Martin Nordkvist, and Magnus Rattfeldt.
In: 19th International Conference on Principles and Practice of Constraint Programming, 2013. [[pdf](#)]
- *Propagator Groups*, Mikael Z. Lagerkvist and Christian Schulte.
In: 15th International Conference on Principles and Practice of Constraint Programming, 2009. [[pdf](#)]
- *Techniques for Efficient Constraint Propagation*, Mikael Z. Lagerkvist.
Licentiate thesis, KTH - Royal Institute of Technology, Stockholm, Sweden. November 2008. [[pdf](#)]
- *Modeling Irregular Shape Placement Problems with Regular Constraints*, Mikael Z. Lagerkvist and Gilles Pesant.
In: First Workshop on Bin Packing and Placement Constraints 2008 (BPPC'08). [[pdf](#)]
- *Advisors for Incremental Propagation*, Mikael Z. Lagerkvist and Christian Schulte.
In: 13th International Conference on Principles and Practice of Constraint Programming, 2007. [[pdf](#)]