

Curriculum vitae of Magnus Rattfeldt

Family name	Rattfeldt
Given names	Karl Magnus
Born	May 26, 1975
Nationality	Swedish
Family status	Married, three children
Contact	magnus@rattfeldt.se, +46 (0) 708 789 689
Bio sketch	<p>Dr. Magnus Rattfeldt graduated as PhD in combinatorial optimisation from Uppsala University in 2008. His thesis <i>Set Constraints for Local Search</i> pioneered the combination of set variables and constraint-based local search. Magnus's research interests in general are within the combinatorial optimisation area, and more specifically within constraint programming and (constraint-based) local search, metaheuristics, higher-order domain variables, and implementation techniques. He has applied combinatorial optimisation methods in the areas of air-traffic complexity resolution, configuration, flight academy programme scheduling, manufacturing, packing and placement, personnel rostering, planning, sports scheduling.</p> <p>Magnus is an experimental computer scientist with a strong research and development background from industry. During his tenure at the Swedish Institute of Computer Science he was a core developer of SICStus Prolog – the industry leading Prolog implementation – and a contributor to several successful research projects on combinatorial optimisation. He was on the engineering management team during his tenure at Tomologic, and is one of the principal architects behind its award winning placement optimisation engine for sheet metal cutting. He currently acts an optimisation expert at Optischedule, a company he also co-founded in 2020 with the aim to producing business value for its clients through innovative optimisation solutions.</p> <p>Magnus values effective yet simple solutions and believes in following recognised standards whenever possible, and he is an avid supporter of continuous delivery. He is described by his colleagues as <i>a true professional who always strive to deliver top quality outcomes. His calm and can-do attitude have a positive impact on everyone around him, and he quickly becomes the go-to guy for all kinds of issues.</i></p>
Current positions	
2020 –	Founder and Optimisation Expert, Optischedule <i>Applying optimisation technology to solving client optimisation problems.</i>

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Previous positions

2018 – 2020	Optimisation Expert Consultant, Tomologic <i>Applying metaheuristics and constraint programming to solving client optimisation problems.</i>
2011 – 2018	Senior Researcher, Tomologic <i>Planning and implementing Tomologic's placement optimisation engine.</i>
2014 – 2018	Partner Manager, Tomologic <i>Planning and directing partner integrations of Tomologic's placement optimisation engine.</i>
2008 – 2011	Senior Researcher, Swedish Institute of Computer Science <i>Acquiring funding; planning and implementing research projects; maintaining and extending the SICStus Prolog constraint programming solver.</i>
2002 – 2008	Researcher and Lecturer, Uppsala University <i>Conducting research towards a PhD in combinatorial optimisation; being course responsible and lecturing in various computer science courses; mentoring groups of students.</i>
2005	Optimisation Engineer, Friartuck, Singapore <i>Applying metaheuristics and mixed integer programming to solving a client optimisation problem.</i>
2001 – 2002	Junior Researcher, Swedish Institute of Computer Science <i>Conducting research towards an MSc in combinatorial optimisation.</i>
2001	Software Engineer, Independent Consultant

Degrees

2008	PhD in Computer Science, Uppsala University
2005	PhL in Computer Science, Uppsala University ¹
2002	MSc in Computer Science, Uppsala University

Other education

2000 – 2001	Computer Science, National University of Singapore
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Academic impact

Magnus's research results are published in top conferences and journals such as CP, CPAIOR, IJCAI, and Constraints. He has also served on the programme committees of and reviewed for these conferences and journals, in addition to AAAI, AI Communications, and various workshops.

Languages

Swedish	Native
English	Full professional proficiency

¹Licentiate of Philosophy, a publicly defended Swedish degree equivalent to half a PhD.

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Selected skills

Artificial Intelligence, Bash, C, C++, Computational Geometry, Constraint Programming, Continuous Delivery, Distributed Systems, Docker, Emacs, Functional Programming, Gerrit, Git, IntelliJ, Java, Jenkins, Jira, Kotlin, L^AT_EX, Linux, Local Search, Maven, Metaheuristics, Mixed Integer Programming, OCaml, OOP, Optimisation, Prolog, Python, RESTful APIs, Scala, Spring, SQL

Leisure interests

Magnus spends most of his spare time with his family. He enjoys being outdoors on a snowboard, skateboard or a bicycle, and spends much time on the football pitch cheering for his kids' football teams.