

Personal Information

Name: Péter Kovács, PhD
Date of birth: 21 July 1984
Family: married, three children
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About

Senior software engineer with strong background in computer science and 15 years of experience in designing, developing, and maintaining a wide range of applications, libraries, and software services. Motivated in solving complex challenges and delivering high-quality, maintainable, efficient code within deadlines. Possesses excellent skills in Java and related technologies, algorithms, and optimization. Focused on backend development and business logic, but also has experience in full-stack development and DevOps. Proactive, reliable, and effective in every stage of the development process. Experienced in hiring, mentoring, and leading development teams. Capable of strategic thinking and also has attention to detail.

Experience

2020 – **Technical Lead** – Chemaxon, Budapest (3 years)
2014 – 2020 **Senior Software Engineer** – Chemaxon, Budapest (6 years)
2010 – 2014 **Software Developer** – Chemaxon, Budapest (4 years)
Developing software solutions used by leading international companies in the pharmaceutical industry for representing, searching, and analyzing chemical data (Java and related technologies, algorithms, CI/CD, full-stack development, DevOps, agile methodologies).
2007 – 2010 **Software Developer** – LEMON C++ Optimization Library (3 years, part-time)
Developing efficient algorithms and data structures for optimization problems related to graphs and networks (combinatorial optimization, open-source community, API design, R&D).
2007 – 2012 **Instructor** – Eötvös Loránd University, Budapest (5 years, part-time)
Teaching programming methodology and algorithms. Supervisor of BSc and MSc theses.

Education

2007 – 2010 **Doctoral program in Computer Science**
Eötvös Loránd University, Budapest
PhD earned in 2019. Thesis title: *Efficient Algorithms for Graph Optimization Problems*.
2002 – 2007 **MSc in Computer Science** (with Honors)
Eötvös Loránd University, Budapest

Skills

- Java, Kotlin, JavaScript, Groovy
- Spring, JPA, Hibernate, JDBC
- JUnit, Mockito
- React, Redux, jQuery
- HTML, CSS, XML, JSON
- SQL, PostgreSQL, Oracle, MongoDB
- Gradle, Maven, GitLab CI, Jenkins
- AWS, cloud, microservices
- Docker, Terraform
- Linux, shell scripting
- Git, Mercurial (HG), Subversion (SVN)
- IntelliJ IDEA, Eclipse
- JIRA, Sonar, Mend
- LaTeX, BibTeX, gnuplot
- algorithms, data structures, optimization
- mathematical modeling, graph theory
- problem solving, decision making
- critical thinking, attention to detail
- teamwork, communication
- mentoring, teaching, leadership
- agile methodologies, Scrum, Kanban
- clean code, refactoring
- API design, REST API
- CI/CD, TDD, BDD
- R&D, scientific writing

Honors and Awards

- Fellowship granted by the Republic of Hungary (2004, 2005, 2006)
- Excellent student of Faculty of Informatics, ELTE (2004, 2006, 2007)

Languages

- Hungarian: native
- English: proficient
- German: elementary

Publications

Journal articles

- [1] P. Kovács, G. Botka, Á. Figyelmesi. *Automatic generation of Markush structures from specific compounds*. World Patent Information, 57:59-69, 2019.
- [2] P. Englert, P. Kovács. *Efficient Heuristics for Maximum Common Substructure Search*. Journal of Chemical Information and Modeling, 55:941–955, 2015. IF: **3.657**.
- [3] P. Kovács. *Minimum-Cost Flow Algorithms: an Experimental Evaluation*. Optimization Methods and Software, 30:94–127, 2015. IF: **0.841**.
- [4] Z. Király, P. Kovács. *Efficient Implementations of Minimum-Cost Flow Algorithms*. Acta Universitatis Sapientiae, Informatica, 4:67–118, 2012.
- [5] B. Dezső, A. Jüttner, P. Kovács. *LEMON – an Open Source C++ Graph Template Library*. Electronic Notes in Theoretical Computer Science, 264:23–45, 2011.
- [6] B. Dezső, A. Jüttner, P. Kovács. *Column Generation Method for an Agent Scheduling Problem*. Electronic Notes in Discrete Mathematics, 36:829–836, 2010.

Conference papers

- [7] B. Dezső, A. Jüttner, P. Kovács. *LEMON – an Open Source C++ Graph Template Library*. In Proc. 2nd Workshop on Generative Technologies (WGT), pages 3–13, Paphos, Cyprus, 2010.
- [8] Z. Király, P. Kovács. *An Experimental Study of Minimum Cost Flow Algorithms*. In Proc. 8th International Conference on Applied Informatics (ICAI), Vol. 2., pages 227–235, Eger, Hungary, 2010.

Theses

- [9] P. Kovács. *Efficient Algorithms for Graph Optimization Problems*. PhD thesis, 2019.
- [10] P. Kovács. *Network Flows and Their Applications – Efficient Algorithms for the Minimum-Cost Flow Problem*. MSc thesis (in Hungarian). Budapest, Hungary, 2007.