

Leo Osvald

leo.osvald@gmail.com
+1 414 367 8253

AWARDS AND HONORS

Distinguished Artifact Award at OOPSLA 2016 (international conference) for developed software tools & reproducible research results	2016
1st place at American Computer Science League, 5-member finals	Marriottsville, MD 2008
Finalist at TopCoder HighSchool '08 (international tournament)	West Lafayette, IN 2008
3rd place at American Computer Science League, 5-member finals	Houston, TX 2007
1st place at American Computer Science League, 5-member finals	Cincinnati, OH 2006
Award from Croatian Ministry of Science, Education and Sport / Institute of Education of the Republic of Croatia	2006, 2007

OTHER ACCOMPLISHMENTS

Finalist at ITA Tech Challenge (universities of the Midwest), Chicago, IL	2014
1st rank (individual) at Purdue's qualifications for ACM-ICPC regional contest	2012
Substitute member for Croatian team at International Olympiad in Informatics '08	2008
5th place at the Croatian Olympiad in Informatics (HIO)	2008
Participated in National Competitions in: Math, Logic	2008
2nd place on the National Physics Competition (of Croatia)	2006

PUBLICATIONS

International Workshop on Libraries, Languages and Compilers for Programming (ARRAY)	in press
L. Osvald , T. Rompf: " <i>Flexible Data Views: Design and Implementation</i> "	
International conf. on Object-Oriented Programming, Systems, Languages, & Applications (OOPSLA)	
L. Osvald , G. Essertel, X. Wu, L. Gonzales, T. Rompf: (Amsterdam)	11/2016
" <i>Gentrification Gone too Far? Affordable 2nd-Class Values for Fun and Profit</i> "	
European Conference on Object-Oriented Programming (Beijing, China)	6/2012
F. Morandat, B. G. Hill, L. Osvald , J. Vitek: " <i>Evaluating the Design of the R Language</i> "	
International R User Conference (Nashville, TN)	6/2012
L. Osvald , B. G. Hill, F. Morandat: " <i>TraceR: A framework for understanding R performance</i> "	

EDUCATION

Ph.D. in Computer Science	Purdue University	1/2014 - present
M.Sc. in Computer Science	West Lafayette, IN, USA	8/2011 - 12/2013
GPA: 3.67 (current & MS graduation)		
Research focus: Programming Languages (<i>metaprogramming</i> and <i>data structures</i>)		
B.Sc. in Computing	Faculty of Electrical Engineering and Computing (FER) , University of Zagreb, Croatia	10/2008 - 7/2011
GPA: 4.94 / 5.00		
Thesis: " <i>Speed Limit Enforcement using Artificial Neural Networks</i> "		

LECTURER AND PROBLEM WRITER

9/2008 – 6/2011

Lecturer & Problem Writer in Competitive Programming, University of Zagreb

Assisted in organization of the Competitive Programming course at FER as a lecturer and problem writer. The course objective is to teach students develop algorithmic skills, as well as to apply them in *problem solving*.

Expert Associate, Croatian Computer Science Association (HSIN)

Wrote problems & test cases for the Croatian Open Competition in Informatics (COCI), acting as a judge for a renowned international programming competition.

Lectured in summer and winter camps, organized by HSIN.

Co-founder of programming league and Mentor, XV Gymnasium (top-ranked high school)

Author of problems and solution presenter. Mentored students for international competitions by teaching advanced algorithms and data structures, and gave first-hand professional advice.

PROFESSIONAL SERVICE

Artifact Evaluation Committee, **European Conf. on Object-Oriented Programming** 4/2017

Artifact Evaluation Committee, Int'l conf. on **Prog. Languages Design & Implementation** 3/2017

National Scientific Committee, **Croatian Open Competition in Informatics** 2009 – 2011

MEMBERSHIPS

Orison-B high IQ society (top 4%) 2016 – present

International High IQ Society (top 5%) 2016 – present

OPEN SOURCE PROJECTS

GitHub (<https://github.com/losvald>):

Portable Java API for Remote Procedure Call on server-client architecture - part of SGLJ

Developed as a personal summer project. Later used in software developed by joint partnership of my university and a Croatian company – distributed system for monitoring asthma patients.

Protocol and command-line tool to efficiently sync JPG images over network - jpgsync

Faster than rsync and 10x less CPU usage. Exploits EXIF metadata to reduce network traffic.

Speed Limit Enforcement using Artificial Neural Networks - bsc-thesis

Detects speed limit violations via OCR of license plates and weighted graph matching.

PGP Private Key MINifier (secure backup) - pkmin

Removes redundancy, increases entropy and obfuscates a GPG/OpenPGP private key.

Purchasable Cost Optimizer - pco

Minimizes the cost of getting supplies of products/services by accepting a multiset of offers.

K-th Shortest Path C++ Library - ksp

Efficiently implemented based on the paper by D. Eppstein: “*Finding the k Shortest Paths*”

Scala macros for Escape analysis (for serialization) of Closures - rich-closures

BitBucket (<https://bitbucket.org/losvald>): **Flexible Data Views - cppviews, scalaviews**

INTERESTS

Computer Science & programming

Since early high school, I have loved solving challenging algorithmic problems via sophisticated solutions and their application in practice.

I enjoy the creativity of programming; both high-level design & architecture and writing maintainable code.

Leisure

Writing reusable libraries and tools for personal use, and make them open source.

Playing several sports including table tennis, basketball and badminton.

Also playing bridge, chess and solving puzzles like Rubik's.

Playing a keyboard.