

# Petar Ivanov

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born: 29 MAY 1989 in Shumen, Bulgaria  
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## SUMMARY

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Bachelor graduate with solid background in algorithms and data structures.  
Winner of multiple programming competitions. Did Bio&IT-oriented research internships.  
Enjoys teaching and communicating science. Software engineer at Google.

## SKILLS

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Algorithms: Graphs, Combinatorics, Strings, Geometry, Optimization, Dynamic Programming  
Programming: C/C++ (STL), Python (NumPy, SciPy, Matplotlib), Ruby, MATLAB  
Tools: Unix, Bash, Vim, Git,  $\text{\LaTeX}$   
Natural languages: English, Russian, Bulgarian

## EDUCATION

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SEP 2014 — SEP 2015 (EXP.)	Master degree in <b>Software Engineering</b> , Distance education Shumen University, Bulgaria
SEP 2009 — JUN 2013 (interrupted by visa issues)	Specialist degree ( <i>equivalent to Master</i> ) in <b>Applied Mathematics and Informatics</b> Moscow State University, Russia // calculus, Computer vision ↓ transferred as I could not enter Russia
JUN 2014	Got a Bachelor degree in <b>Computer Informatics</b> Shumen University, Bulgaria
SEP 2011 — JUN 2013	Master degree ( <i>not accredited</i> ) in <b>Bioinformatics</b> // + taught algorithms to biologists Yandex School of Data Mining, Moscow, Russia
SEP 2008 — JUN 2009 (moved to Moscow University)	Bachelor degree in <b>Computer science</b> // instructor of advanced algorithmics course Sofia University, Bulgaria // mainly discrete maths
SEP 2000 — JUN 2008	Mathematics and Physics profile // award for most scientific achievements of his year Shumen High school of Sciences, Bulgaria

### Additional:

JAN 2011	VISION AND MACHINE-LEARNING RESEARCH SCHOOL, ENS Lyon, France
JUL 2008	RUSSIAN SUMMER INFORMATICS CAMP, Kostroma, Russia // 3 weeks of problems and theory
AUG 2007	PHYSICS CAMP, Panitsite, Bulgaria // 3 weeks of maths and physics
2004 — 2007	SUMMER RESEARCH INFORMATICS CAMP, Varna, Bulgaria // 2-week problem solving
2001 — 2008	MATHEMATICS AND INFORMATICS PRIVATE SCHOOL "A&B", Shumen, Bulgaria

## INDUSTRY

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SEP 2014 – Software Engineer at Search  $\supset$  Knowledge  $\supset$  Infrastructure  
NOW *Google Zurich* // big data, messy pipelines and loads of code

## INTERNSHIPS

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JUL 2013 – Summer internship on *SPAdes* open source genome assembler // *chimeras presentation*  
AUG 2013 // proof of concept: replication bugs to enhance assembly in open source assembler  
supervised by Dr. Pavel Pevzner, *Algorithmic Biology Lab*, St. Petersburg Academic University

SEP 2012 – Microbiological models designer // *Microcin modelling*  
JUN 2013 supervised by Prof. Konstantin Severinov, *Institute of Gene biology*, Russian Academy of Sciences

JUL 2012 – Research internship on probabilistic verification of biological models  
AUG 2012 // insisted on my own topic on virus-bacteria interaction (didn't work) [Summary]  
supervised by Prof. Martin Vechev, *Software Reliability Lab*, ETH Zurich

JUL 2011 – Computational Geometry Algorithms Library (*CGAL*) internship  
AUG 2011 *Google Summer of Code* // implemented topological operators on tetrahedral meshes

JUL 2007 – Developer of a bin-packing genetic algorithm for glass cutting optimization  
SEP 2007 *Telepol Net*, Bulgaria // appreciating evolution and first algorithm in production

## TEACHING

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NOV 2013 – Students informatics competitions trainer // sketching an algorithmic textbook  
JUN 2014 *Mathematics and Informatics Private School "A&B"*, Shumen, Bulgaria

NOV 2013 – Technical Assistant in a Coursera *Bioinformatics course* // lectures editing, forum explanations  
JAN 2014 supervised by Dr. Pavel Pevzner, University of California, San Diego

AUG 2010 Lecturer at school students informatics camp // strongest Russian competitors  
*Russian Summer Informatics Camp*, Saratov

MAR 2008 – Assistant in "Design and Analysis of Algorithms" course // led seminars to a group of 20 people  
JUN 2009 *Faculty of mathematics and informatics*, Sofia University, Bulgaria

SEP 2008 – Jury, organizer, tester and author of the problems in *Online programming tournament*  
JUN 2009 *Musala Soft*, Bulgaria // mainly discrete optimization problems

SEP 2008 – Author of problems for Bulgarian Tournaments in Informatics  
JUN 2009, Lecturer at National Informatics Camps  
2013 – 2014 *National Committee in Informatics*, Bulgarian Ministry of Education

## AWARDS

*the competitions are National Bulgarian if nothing else stated*

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1 <sup>st</sup> place	“MINKO BALKANSKI” COMPETITION IN INFORMATICS ’08
11 <sup>th</sup> place	TOPCODER HIGH SCHOOL FINALS, WEST LAFAYETTE, USA ’08
1 <sup>st</sup> place	AUTUMN TOURNAMENT IN INFORMATICS ’07
1 <sup>st</sup> place	STUDENT COMPETITION FOR THE DEAN’S CUP OF SOFIA UNIVERSITY ’07
2 <sup>nd</sup> place	INTERNATIONAL YOUNG PHYSICISTS TOURNAMENT (REGIONAL, IN TEAM) ’06
1 <sup>st</sup> place	“RUMEN GROZDANOV” INFORMATICS AND MATHEMATICS TOURNAMENT ’06
1 <sup>st</sup> place	WINTER TOURNAMENT IN INFORMATICS ’06

- Awarded as a **National Laureate in Informatics**, Bulgaria ’08
- Scholarship for **science achievements** of [AMERICAN FOUNDATION FOR BULGARIA](#) ’07—’08
- Participated in the **final rounds** of the BULGARIAN OLYMPIAD IN INFORMATICS ’05—’08
- Participated in the **final rounds** of the [TOPCODER HIGH SCHOOL](#), West Lafayette, USA ’07—’08
- Participated in the **final rounds** of “[MUSALA SOFT AND PC MAGAZINE](#)” competition ’07—’08

## ACTIVITIES :”)

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| • Solves algorithmic problems                             | // <a href="#">TOPCODER</a> , <a href="#">TIMUS</a> , <a href="#">ROSALIND</a> |
| • Opens the source  | // <a href="#">GitHub profile</a>  |
| • Founded a project for describing educational systems    | // <a href="#">students-abroad.info</a>  |
| • Enjoys hiking, biking, dancing, paragliding and running | // <a href="#">42.195km in 3:43h</a> , Zelenograd, Russia, Dec 2011            |
|   | // <a href="#">100km in 13:19h</a> , Vitosha mountain, Bulgaria, 2012          |