

# 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

## INTERNSHIPS

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JUL 2013 – Summer internship on [SPAdes](#) open source **genome assembler** // chimera presentation: [\[PDF\]](#)  
AUG 2013 // proof of concept demonstrated: 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 antibiotic model: [\[Summary\]](#)  
JUN 2013 [Institute of Gene biology](#), Russian Academy of Sciences

JUL 2012 – Research internship on probabilistic verification of **biological models**  
AUG 2012 // proposed own topic on virus-bacteria interaction: [\[Summary\]](#)  
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** // the best informatics camp  
[Russian Summer Informatics Camp](#), Saratov

MAR 2008 – Assistant in “**Design and Analysis of Algorithms**” course // had seminars with my own group  
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 in all **Bulgarian Tournaments in Informatics**  
JUN 2009 Lecturer in the **National Informatics Camps**  
*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 <b>algorithmic problems</b>                          | // <a href="#">TOPCODER</a> , <a href="#">TIMUS</a> , <a href="#">ROSALIND</a>   |
| • Enjoys <b>opening the source</b>                            | // <a href="#">GitHub profile</a>  |
| • Founded a project for describing <b>educational systems</b> | // <a href="#">students-abroad.info</a>  |
| • Relaxes by hiking, biking, dancing, paragliding and running | // <a href="#">42.195km in 3:43h</a> , <a href="#">Zelenograd, Russia</a> , Dec 2011<br>// <a href="#">100km in 13:19h</a> , <a href="#">Vitosha mountain, Bulgaria</a> , 2012 |