

# Petar Ivanov

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## SUMMARY

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Graduate with solid background in algorithms and data structures.  
Winner of programming competitions. Did multiple Bio&IT research internships.  
Loves teaching and communicating science. Worked as a 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, ~~LaTeX~~  
Speaks: English, Russian, Bulgarian

## EDUCATION

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APR 2015 — FEB 2017	Master degree in <b>Software Engineering</b> ( <i>extra-mural</i> ) Thesis: <i>Framework for Genomic Reconstruction Algorithms</i> Shumen University, Bulgaria
JUN 2014	Bachelor degree in <b>Computer Informatics</b> Shumen University, Bulgaria <i>↑ transferred because of an administrative ban to enter Russia</i>
SEP 2009 — JUN 2013 (interrupted by visa issues)	Specialist degree ( <i>equivalent to Bachelor+Master</i> ) in <b>Applied Mathematics and Informatics</b> Moscow State University, Russia // calculus, Computer vision
SEP 2008 — JUN 2009 (moved to Moscow University)	Bachelor degree in <b>Computer science</b> // + led seminars in advanced algorithmics 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:

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
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

## INTERNSHIPS

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JUN 2016 – NOW	Internship on modern biotech technologies // <a href="#">Genome assemblers</a> , <a href="#">Single-cell transcriptomics</a> , <a href="#">T-cell receptor reconstruction</a> , <a href="#">Machine learning</a> <i>supervised by Prof. Martin Vechev, <a href="#">Software Reliability Lab</a>, ETH Zurich</i> <i>collaborating with PD Dr. Emmanuella Guenova, <a href="#">Dermatology Clinic</a>, University of Zurich</i>
JUL 2013 – AUG 2013	Summer internship on <a href="#">SPAdes</a> open source genome assembler // <a href="#">chimera's presentation</a> // <a href="#">proof of concept: replication bugs to enhance assembly in open source assembler</a> <i>supervised by Dr. Pavel Pevzner, <a href="#">Algorithmic Biology Lab</a>, St. Petersburg Academic University</i>
SEP 2012 – JUN 2013	Microbiological models designer // <a href="#">Microcin modelling</a> <i>supervised by Prof. Konstantin Severinov, <a href="#">Institute of Gene biology</a>, Russian Academy of Sciences</i>
JUL 2012 – AUG 2012	Research internship on probabilistic verification of biological models // <a href="#">insisted on my own topic on virus-bacteria interaction</a> <a href="#">[Summary]</a> <i>supervised by Prof. Martin Vechev, <a href="#">Software Reliability Lab</a>, ETH Zurich</i>
JUL 2011 – AUG 2011	Computational Geometry Algorithms Library ( <a href="#">CGAL</a> ) internship <a href="#">Google Summer of Code</a> // <a href="#">implemented topological operators on tetrahedral meshes</a>
JUL 2007 – SEP 2007	Developer of a bin-packing genetic algorithm for glass cutting optimization <a href="#">Telepol Net</a> , Bulgaria // <a href="#">appreciating evolution and first algorithm in production</a>

## TEACHING

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SEP 2015 (EXP.)	Supervisor of high school students // <a href="#">leading an evolutionary computational project</a> <a href="#">Science&amp;Arts school "Science Xplore"</a> , Viseu, Portugal
NOV 2013 – JUN 2014	Students informatics competitions trainer // <a href="#">meanwhile sketching an algorithmic textbook</a> <a href="#">Mathematics and Informatics Private School "A&amp;B"</a> , Shumen, Bulgaria
NOV 2013 – JAN 2014	Technical Assistant in a Coursera <a href="#">Bioinformatics course</a> // <a href="#">lectures editing, forum explanations</a> <i>supervised by Dr. Pavel Pevzner, University of California, San Diego</i>
AUG 2010	Lecturer at school students informatics camp // <a href="#">strongest Russian competitors</a> <a href="#">Russian Summer Informatics Camp</a> , Saratov
MAR 2008 – JUN 2009	Assistant in "Design and Analysis of Algorithms" course // <a href="#">led seminars to a group of 20 people</a> <i>Faculty of mathematics and informatics, Sofia University, Bulgaria</i>
SEP 2008 – JUN 2009	Jury, organizer, tester and author of the problems in <a href="#">Online programming tournament</a> <a href="#">Musala Soft</a> , Bulgaria // <a href="#">mainly discrete optimization problems</a>
SEP 2008 – JUN 2009, 2013 – 2014	Author of problems for Bulgarian Tournaments in Informatics Lecturer at National Informatics Camps <i>National Committee in Informatics, Bulgarian Ministry of Education</i>

## INDUSTRY

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SEP 2014 — Software Engineer at Search ⊃ Knowledge ⊃ Infrastructure  
NOW Google Zurich // big data and pipelines

## AWARDS

*the competitions are National Bulgarian if nothing else stated*

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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- Solving algorithmic problems // [TOPCODER](#), [TIMUS](#), [ROSALIND](#)
- Supporting open-source // [GitHub profile](#)
- Founded a project for describing educational systems // [students-abroad.info](#)
- Enjoying hiking, biking, dancing, paragliding and running // [42.195km in 3:43h](#), Zelenograd, Russia, Dec 2011  
// [100km in 13:19h](#), Vitosha mountain, Bulgaria, 2012