

# Petar Ivanov

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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 several research internships.  
Enjoys teaching and communicating science.

## SKILLS

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

## EDUCATION

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SEP 2013 – SEP 2014 ( <i>exp.</i> ) ( <i>graduated all semesters</i> )	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 2009 – JUN 2013 ( <i>interrupted by visa issues</i> )	Specialist degree ( <i>equivalent to Master</i> ) in <b>Applied Mathematics and Informatics</b> Moscow State University, Russia // more calculus
SEP 2008 – JUN 2009 ( <i>moved to Moscow University</i> )	Bachelor degree in <b>Computer science</b> // instructor of advanced algorithmics course Sofia University, Bulgaria // mainly discrete maths
SEP 2000 – JUN 2008	<b>Mathematics and Physics class</b> // 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

## INTERNSHIPS

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- JUL 2013 – AUG 2013 | Summer internship on **SPAdes** open source **genome assembler** // chimera presentation: [PDF]  
// 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 – JUN 2013 | Microbiological models designer // microcin antibiotic model: [Summary]  
*Institute of Gene biology*, Russian Academy of Sciences
- JUL 2012 – AUG 2012 | **Research internship** on verification of probabilistic biological models  
// proposed own topic on virus-bacteria interaction: [Summary]  
supervised by Prof. Martin Vechev, *Software Reliability Lab*, ETH Zurich
- JUL 2011 – AUG 2011 | **Computational Geometry Algorithms Library (CGAL)** internship  
**Google Summer of Code** // implemented topological operators on tetrahedral meshes
- JUL 2007 – SEP 2007 | Developer of a bin-packing **genetic algorithm** for glass cutting optimization  
*Telepol Net*, Bulgaria // appreciating evolution and first algorithm in production

## TEACHING

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- NOV 2013 – JUN 2014 | Students **informatics competitions** trainer // sketching an algorithmic textbook  
*Mathematics and Informatics Private School "A&B"*, Shumen, Bulgaria
- NOV 2013 – JAN 2014 | Technical Assistant in a Coursera **bioinformatics course** // lectures editing, forum explanations  
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 – JUN 2009 | Assistant in "**Design and Analysis of Algorithms**" course // had seminars with my own group  
*Faculty of mathematics and informatics*, Sofia University, Bulgaria
- SEP 2008 – JUN 2009 | Jury, organizer, tester and author of the problems in **Online programming tournament**  
*Musala Soft*, Bulgaria // mainly discrete optimization problems
- SEP 2008 – JUN 2009 | Author of problems in all **Bulgarian Tournaments in Informatics**  
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> |
| • Contributes to <b>open source</b> projects                  | // <a href="#">GitHub profile</a>  |
| • Founded a project for describing <b>educational systems</b> | // <a href="#">students-abroad.info</a>  |
| • Loves hiking, biking, orienteering and <b>running</b>       | // <a href="#">42.195km in 3:43h</a> – Zelenograd, Russia, Dec 2011            |
|   | // <a href="#">100km in 13:19h</a> – Vitosha mountain, Bulgaria, Jul 2012      |