

Oleksii Kuchaiev

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Irvine, CA 92617, USA.

Qualification: Strong knowledge and research skills in algorithms, graph theory, statistics and machine learning. Proficient in C/C++, C# and Python. 2x winner (2006, 2007) of Microsoft Imagine Cup Ukrainian finals in Software Design category. In 2007, our team qualified to the top 12 teams in the world.

Education:

- Ph.D. Candidate, Sep 2007 - expected 2010,
(M.S. degree in Fall 2009)
Department of Computer Science, University of California, Irvine
Current GPA: **3.95 /4.0**
- M.S. with honors in applied mathematics, Jun 2007,
B.S. with honors in applied mathematics, Jun 2005.
Department of Cybernetics, National T. Shevchenko University of Kiev, Ukraine
GPA: **5.0/5.0**

Development Skills:

- Languages: C/C++, Python, C#, Unix Shell Scripts, HTML, XML, SQL, UML
- DBMS: Microsoft SQL Server, MS Access
- Technologies: .NET framework (ASP.NET 2.0, ADO.NET, Windows Forms, Web Services), MS Speech API, OpenMPI, STL, etc.
- Programming Environments: MS Visual Studio, Eclipse
- Networking protocols: TCP/IP, UDP, DNS, etc.
- Processes & Methodologies: MSF for Agile, RUP

Certifications: Microsoft Certified Professional - 70-536 (.NET 2.0 fundamentals) exam with the score 982/1000. 05/2007.

Professional Experience:

- **Teaching Assistant:** 08/2009 - present
Department of Computer Science, University of California, Irvine
CS162: Formal Languages and Automata
- **Graduate Student Researcher:** 07/2008-07/2009
Department of Computer Science, University of California, Irvine
 - Research involves application of machine learning, statistics and graph theory for large networks analysis in bioinformatics. Relevant publications are: (J1) and (C1)-(C4).
- **Software Engineer, INTSPEI, Ukraine** 03/2007 - 07/2007
 - Research in software development methodologies (findings published as publication C6 below).
 - Contributed to design and implementation of Content Management System for company's website.
- **Software Engineer, Program Development Systems Ltd, Ukraine, 10/2005 - 12/2005**
 - Improved an existing version of automatic web crawler for resume searching and job posting submissions to the websites. Increased coverage, automated the process of adding new sites. Improved functionality.

Refereed Journal Publications:

(J1) **O. Kuchaiev**, M. Rasajski, D. J. Higham, and N. Przulj, "Geometric De-noising of Protein-Protein Interaction Networks," PLoS Computational Biology, 2009, 5(8): e1000454.

Refereed Conference Publications:

(C1) **O. Kuchaiev**, T. Milenkovic, V. Memisevic, W. Hayes, N. Przulj, "Topological network alignment uncovers biological function and phylogeny," submitted. arXiv:0810.3280.

(C2) N. Przulj, O. Kuchaiev, A. Stevanovic, and W. Hayes, "Geometric Evolutionary Dynamics of Protein Interaction Networks," to appear in Proceedings of the 2010 Pacific Symposium on Biocomputing (PSB 2009), Big Island, Hawaii, USA 04/01/10-08/01/10.

(C3) **O. Kuchaiev**, P. T. Wang, Z. Nenadic, and N. Przulj, "Structure of Brain Functional Networks," 31st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'09), Minneapolis, Minnesota, USA, September 2-6, 2009.

(C4) **O. Kuchaiev** and N. Przulj, “*Learning the structure of protein-protein interaction networks*”, Proceedings of the 2009 Pacific Symposium on Biocomputing (PSB 2009), Big Island, Hawaii, USA 05/01/09-09/01/09.

(C5) Protsyk P., **Kuchaiev O.**, Prokhorov V., Doroshenko A., “*FENESTRA: An Automated System for Supporting Educational Process for People with Visual Disabilities*,” Second International Conference “Information Technologies in Education for All”, Kiev, Ukraine 21/11/07-23/11/07

(C6) V. L. Pavlov, N. Boyko, A. Babich, **O. Kuchaiev**, S. Busygin, “*Applying Pantomime and Reverse Engineering Techniques in Software Engineering Education*” , Frontiers in Education Conference, Milwaukee, WI, USA 10/10/07-13/10/07

(C7) **O. Kuchaiev** and I.V. Protasov, research report “*Coarse Rays and Lines*,” Proceedings of Forth Summer School in Algebra, Topology and Stochastic Analysis, Lviv-Kozyova, Ukraine. 08/2006

(C8) **O. Kuchaiev** and A. Tsvietkova, research report “*Asymptotic Rays*,” Proceedings of Third Summer School in Algebra, Analysis and Topology, Lviv-Kozyova, Ukraine. 08/2005

(C9) G. Kozyrev, **O. Kuchaiev**, A. Tsvietkova, research report “*Around Grasshopper Lemma*,” Proceedings of Second Summer School in Algebra and Topology, Liviv-Dolyna, Ukraine. 07/2004

Conference Talks:

(T1) **O. Kuchaiev**, P. T. Wang, Z. Nenadic, and N. Przulj, “*Structure of Brain Functional*,” annual retreat of Center For Complex Biological Systems, UC Irvine. Santa Monica, CA, USA, 03/2009

(T2) **O. Kuchaiev** and N. Przulj, “*Learning the structure of protein-protein interaction networks*,” Proceedings of the 2009 Pacific Symposium on Biocomputing (PSB 2009), Big Island, Hawaii, USA 05/01/09-09/01/09.

Thesis:

O. Kuchaiev “*Geometric graphs in biological networks*,” advisor: Prof. N. Przulj, M.S. Thesis, Information & Computer Science, University of California, Irvine, Fall 2009.

Honors and Awards

- Opportunity award: O. Kuchaiev, Po T.Wang “Understanding brain signal dynamics”, Sponsoring Faculty: Dr. N.Przulj and Dr. Z.Nenadic, UC Irvine Center for Complex Biological Systems 2008
- ICS Dean’s fellowship, four years of support 2007-2011. Donald Bren School of Information and Computer Science, UC Irvine. 2007-2011
- Microsoft Imagine Cup 2007. **Qualified to the top 12 teams in the world.** Software Design category, worldwide finals. Seoul, Korea 08/2007
- Microsoft Imagine Cup 2007. 1st place in Ukrainian final. Software Design category, Kiev, Ukraine 04/2007
- Microsoft Imagine Cup 2006. Software Design category. 1st place in Ukrainian final. Participated in the Central and East European finals in Maribor, Slovenia. 2006
- 1st place in Ukrainian math competition in Kiev region. Participant in Ukrainian Mathematical Competitions final, Ternopil, Ukraine 04/2001
- 3rd place in competition-presentation of works of Junior Academy of Science in mathematics (Kiev region). 2001
- 2nd place in competition-presentation of works of Junior Academy of Science in mathematics (Kiev region). 2000
- 3rd place in Ukrainian math competition in Kiev region. 1999

Languages: Russian, Ukrainian