

Orhan Camoglu

Department of Computer Science
University of California
Santa Barbara, CA 93106-5110
USA

Phone: (805) 284-1995
Fax: (805) 893-8553
orhan@cs.ucsb.edu
<http://www.cs.ucsb.edu/~orhan/>

Education:

Ph.D. in Computer Science, under the supervision of Ambuj K. Singh Expected graduation: June 2006
University of California at Santa Barbara, US GPA: 3.98/4.00

B.S. in Computer Science and Information Engineering June 2001
Bilkent University, Ankara, Turkey GPA : 3.66/4.00

Experience:

Research Assistant *University of California at Santa Barbara* 06.2002 – present

Worked mainly on bioinformatics, databases and algorithms. Applied database and machine learning principles to biological data. Developed various methods including PSI (for protein structure comparison), and Ensemble (for protein classification). Currently working on synthesis of a functional interaction network of *C. elegans*, developing analysis techniques for protein interaction networks, and motif mining for protein structures.

Visiting Researcher/Intern *National Center for Biotechnology Information, NIH* 06.2003 – 09.2003

Integration of Carbon-beta information into the structural search tool VAST.

Teaching Assistant *University of California at Santa Barbara* 09.2001 – 06.2002

Introduction to Computer Systems, Foundations of Computer Science, Programming Languages.

Software Development Engineer *Havelsan A.Ş. Ankara, TURKEY* 06.2000 – 08.2001

Development of the 3D visual component of an artillery trainee for Turkish Army using C++.

Selected Projects:

Protein Structure Querying and Mining: Performs fast similarity queries on protein structure databases. This program takes advantage of index structures, and quickly prunes out the unpromising proteins from a large target database. (<http://bioserver.cs.ucsb.edu/proteinstructuresimilarity.php>)

Protein Classification: Builds a protein similarity network using various diverse information sources. A global ranking is obtained by performing random walks with restarts on this network. Rankings from various sources are combined using a Bayesian Classifier to achieve protein classification.

Protein Interaction Network Synthesis and analysis: Constructs a probabilistic interaction network for *C. elegans* proteins from diverse information sources such as microarray expression profiles, gene ontology annotations, genomic evidence, literature information, and ortholog. It also contains graph-based techniques for mining new pathways in the interaction networks, and discovering missing members of existing pathways and complexes. (<http://bioserver.cs.ucsb.edu/celegans/index.php>)

Forward Artillery Observer Trainer: A simulator for Turkish Army to train Forward Observers. I was a member of the team that developed 3-D visual component with C++ by using Vtree libraires.

Skills:

Programming Languages: Java (preferred), C++, C, Delphi, OTcl, FORTRAN, Lisp

Operating Systems: UNIX, Windows, IRIX, Linux, DOS

Languages: English, Turkish (native)

Refereed Conference and Journal Publications:

Orhan Camoglu, Tolga Can, and Ambuj K. Singh, "Integrating Multi-Attribute Similarity Networks for Robust Representation of the Protein Space" *Bioinformatics*, to appear

Jayendra Venkateswaran, Tamer Kahveci and Orhan Camoglu, "Finding Data Broadness via Generalized Nearest Neighbors" *International Conference on Extending Database Technology (EDBT) 2006 to appear*

Tolga Can, Orhan Camoglu, and Ambuj K. Singh, "Analysis of protein-protein interaction networks using random walks," *In Proceedings of the 5th ACM SIGKDD Workshop on Data Mining in Bioinformatics*, Chicago, August 2005

Orhan Camoglu, Tolga Can, Ambuj K. Singh, and Yuan-Fang Wang, "A machine Learning Approach For Automated Protein Classification" *Journal of Bioinformatics and Computational Biology (JBCB)*, Vol. 3, No. 3 (June 2005), 717-742

Tolga Can, Orhan Camoglu, Ambuj K. Singh, and Yuan-Fang Wang, "Automated Protein Classification Using Consensus Decision" *The Computational Systems Bioinformatics Conference (CSB) 2004*

Orhan Camoglu, Tamer Kahveci, and Ambuj K. Singh, "Index-based Similarity Search for Protein Structure Databases" *Journal of Bioinformatics and Computational Biology (JBCB)*, Vol. 2, No. 1 (March 2004), 99-126

Orhan Camoglu, Tamer Kahveci, and Ambuj K. Singh, "Towards Index-based Similarity Search for Protein Structure Databases" *The Computational Systems Bioinformatics Conference (CSB) 2003*

Orhan Camoglu, Tamer Kahveci, and Ambuj Singh, "PSI: Indexing Protein Structures for Fast Similarity Search" *Intelligent Systems for Molecular Biology (ISMB) 2003 (Bioinformatics 2003;19 Suppl 1:i81-3)*

Book Chapters:

Orhan Camoglu, and Ambuj Singh, Chapter: 'Protein structure comparison and classification' "*Computational Methods for Protein Structure Prediction and Modeling*" Eds.: Ying Xu, Dong Xu, Jie Lang, Springer-Verlag 2006 (expected)

Under review:

Tolga Can, Orhan Camoglu, and Ambuj K. Singh "Discovering Functional Modules by Repeated Random Walks on Protein Interaction Networks"

Orhan Camoglu, Tolga Can, and Ambuj K. Singh "Answering Proximity Queries in Protein Networks Using Network Reliability"

Awards and Honors:

- **2005** Campus prize in time series task in UC Data mining contest
- **2002** Presidents Work Study research grant
- **2001** Full financial support for the Ph.D. program of the Computer Science Department of UCSB
- **1999 First Prize** at Software Quest'99 in Bilkent University
- **1997** Full Scholarship for B.S. from Bilkent University
- Nationally ranked **4th** in Mathematics at Turkey National University Placement Exam

References:

Prof. Ambuj K. Singh

Department of Computer Science, UCSB
ambuj@cs.ucsb.edu (805) 893-3236

Prof. Joel Rothman

Molecular, Cellular and Developmental Biology, UCSB
rothman@lifesci.ucsb.edu (805) 893-7885

Prof. Yuan-Fang Wang

Department of Computer Science, UCSB
yfwang@cs.ucsb.edu (805) 893-3866

Prof. Subhash Suri

Department of Computer Science, UCSB
suri@cs.ucsb.edu (805) 893-8856

Prof. Tamer Kahveci

Department of Computer and Information Science and Engineering, UFL
tamer@cise.ufl.edu (352) 392 6849