

Petko Bogdanov Bogdanov

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Date of Birth: 08/30/1982
Nationality: Bulgaria
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Education

2006- 2011(expected) University of California, Santa Barbara Santa Barbara, CA

- Ph.D. ,Department of Computer Science
- Research concentration: Mining and querying large graphs
- Advisor: Prof. Ambuj Singh

2001- 2005 Technical University-Sofia Sofia, Bulgaria

- B. Eng. , Department of Computer Systems and Technology
- GPA 5.68 (Bulgarian grad. system: 2-6 scale, 6 is the highest grade)

Academic and Research Experience

2006 – present University of California, Santa Barbara Santa Barbara, CA

- Research assistant
- Teaching assistant - Bioinformatics, Programming Languages

Research projects:

- Approximate importance in large graphs. Data objects in many domains are not independent entities. Modeling, searching and analysis of graphs has proved to be a suitable paradigm for such domains. In this project I am investigating bounds approximations of importance computation for large-scale graphs. Experiments, using the developed approximation bounds, will be performed on biological and social networks.
- Gene function prediction. A gene network models the interactions between genes in the cell. Not all genes in such networks are labeled with the function they perform. In this project, a two-phase approach was developed for the problem of function prediction - feature extraction from a partially labeled network followed by classification. The approach is robust to the network structure and was shown to dominate existing approaches.

Other Projects:

- Mining for conserved pathways in protein interaction networks. In this project an approximate algorithm for discovering conserved pathways in a partially labeled network was developed.
- User interest recommendation in a social bookmarking system. A ranking method for a heterogeneous network was proposed to simultaneously rank users and bookmarks for the purposes of recommendations.

Selected graduate courses:

Indexing in multimedia databases, Pattern recognition, Data mining, Bioinformatics, Advanced distributed systems

2005 Technical University-Sofia Sofia, Bulgaria

- Bachelor Thesis : “Algorithm for finding the largest common subgraph and its application in Bioinformatics for matching secondary protein structures” Advisor: Prof. Stoicho Stoichev

Publications

- Petko Bogdanov, Swaroop Jagadish and Ambuj Singh, “Function Prediction Using Neighborhood Patterns”, BIOT 2007 (short version)
- Petko Bogdanov and Ambuj Singh, “Function Prediction Using Neighborhood Patterns”, BioKDD 2008 (Selected for publication in a special issue of IEEE TCBB)

Work Experience

2004 – 2006 *SciAnt Ltd. (currently VMware)*

www.sciant.com

- Started as an intern in January 2004, was offered a permanent position as a software engineer in March 2004 and was promoted to senior software engineer in Jan 2005
- Completed a course in Project Management
- Designed procedures for the Quality Management System according to the standard ISO 9001:2000

Projects:

- EPS - Extraction, transformation and data analysis system for DHL, Europe
 - Analyzed business requirements and customer data, defined business rules
 - Designed database and optimized performance for the management and analysis of large amount of data, Designed OLAP cubes
 - Technologies used: Visual Basic, MS SQL Server, MS OLAP, Cognos Reporting Engine
- Fleetmax c/s - Vehicle management system
 - Designed a reporting engine, data migration tools and procedures for remote database replication
 - Technologies used: PowerBuilder, MS SQL Server, Python
- Operating Plan System - Business planning system for UniChem, UK
 - Technologies used: .NET, C# , MS SQL Server, Web Services, JavaScript

Affiliations

- PC Member : UCSB Graduate Student Research Conference, GSRC 2008
- Faculty recruitment committee member, Dept. of Computer Science, UCSB, 2007
- Graduate student assoc. representative for Dept. of Computer Science, UCSB, 2007

Awards

- Lisa Kaz Graduate Fellowship Award, UCSB, Dept. of Computer Science 2006-2007

Skills and Interests

Programming:

Java, Awk, Matlab, SQL

Languages:

English (fluent); German (good); Russian (good); Bulgarian (native speaker)

Sports:

Squash, Caving, Snowboard, Hiking

References

Prof. Ambuj K. Singh (Advisor)
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Prof. Amr El Abbadi
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