

## OZGUR (OSCAR) OZTURK

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**OBJECTIVE: Team Lead, Architect, or Senior Developer Position**

### COMPUTER SKILLS

- Languages: C, C++, C#, C++/CLI, Java, SQL, VTL (Velocity Template Language), MATLAB, Perl, Delphi, Bash, Scheme, XML & XPATH, HTML, and some PHP, JavaScript
- Libraries: C std lib, .Net 3.5, STL, Boost Libraries, jabber-net XMPP lib, Android API
- IDEs: MS Visual Studio, Eclipse, MS SQL Server Manager, MySQL Workbench
- Concepts: Databases, Object-Oriented Analysis and Design, Design Patterns, Unit Testing, Regression Testing, Service Oriented Architecture, Parallel Programming, Network Programming

### EXPERTISE & INTERESTS

- Databases, Data Mining, Information Retrieval, Bioinformatics, Language Processing, Mobile and Embedded Application Design and Development

### WORK EXPERIENCE & PROJECTS

**APPization.com**, Cumming, GA

August 2011-Present

**Founder, Android Developer**

**Mobile Application Development Company** [Java, Android SDK, Eclipse]

- Studied Android and Mobile Web development training. Developed 2 applications.
- Arranged IOS, Android and Windows Phone developers to work for contracted projects.
- Worked on branding (name, graphics, website). Advertisements will follow incorporation.

**NCR Corporation**, Duluth, GA

March 2010-Present

**Senior Software Engineer**

**WebOffice project** [C#, Transact SQL, Velocity Template Language]

- Maintained Data Layer of WebOffice project to be deployed by major retailers for their back office transactions and reporting. My component generates SQL queries for reporting applications dynamically based on query templates written in Velocity Template Language.
- Improved the dynamic query generation to be ten times faster by implementing caching.
- Designed and implemented formula processing feature for Data Controller, so fields can be defined as formulas of arithmetic operations between other fields and constants.
- Rewrote query templates to fix failing reports and speed others up by hundreds of times.
- Planned and tested changes needed to convert the dynamic queries into stored procedures.

**InfoBay, VentureLab, Georgia Institute of Technology**, Atlanta, GA

2009-2010

**Senior Software Engineer, Principal Investigator**

**InfoBay Project: Social Network for Information Marketplace** [*Client:* C++/CLI, .Net 3.5, C#, jabber-net, XMPP (Extensible Messaging and Presence Protocol), Java] [*Server:* Boost ASIO, MySQL, MySQL Connector/C++, XMPP, Java, Openfire API]

- Project PI and coauthor of NSF SBIR (Small Business Innovation Research) proposal.
- Responsible for all aspects of the software development lifecycle, including requirements analysis, design, implementation, documentation and maintenance.
- Responsible for design, implementation and administration of the MySQL server database, and setup and maintenance of server hardware w/ RAID & SUSE Linux Enterprise Server OS.
- Implemented an online presence and desktop messaging platform using .Net technologies on the client side and C++ boost libraries on the server side.
- Added XMPP protocol to my chat client, initial implementation of business logic as server side plug-in for Openfire, an open source XMPP server with pluggable architecture.

**Oracle Corporation, Atlanta, GA** 2008-2009

**Senior Software Engineer**

**RPAS (Retail Predictive Application Server) [C++, STL, Java]**

- Worked on improvement & support of RPAS, business intelligence software used by retailers.
- Written unit tests for Java-based web-client to verify compliance with technical specs.
- Modified regression tests written in JScript and ran using Windows Script Host.

**Carnegie Institution, Department of Plant Biology, Stanford, CA** 2007-2008

**Postdoctoral Researcher**

**PlantCyc [PERL, Pathway Tools, BioJava]**

- Started the development of PlantCyc; a reference database of plant metabolic pathways.
- Implemented programs to curate genome sequence information from various file formats.
- Learned Pathway Tools Software from SRI to run cross-species sequence similarity analyzes to predict the biochemical pathways database for Poplar Tree.

**Database Research Lab, OSU, Columbus, OH** 2002-2007

**Research Assistant**

**LFM-Pro: Local Feature Mining in Proteins [MATLAB]**

- Developed and implemented feature extraction techniques to predict and represent important sites of proteins. Applied novel rotation & translation invariant synopses to better represent protein structures. Implemented 3-D protein structure visualization to display results.
- Applied machine learning methods to develop weighted distance metrics on the synopses to represent local and global similarity of protein structures and used them to characterize features of protein families. Application to family prediction resulted in very high accuracy.

**CoMRI: A Compressed Multi-Resolution Index for Similarity Searching in Large Scale Genomic Data [C++, Java]**

- Developed a novel index structure and sensitive search algorithms for subsequence similarity queries of genomic sequences. Proposed an extension for protein sequences.

**Data Mining on Heterogeneous Data [C++, Java]**

- Developed data mining tools, based on novel similarity definitions for time series data, to analyze Columbus Children's Hospital's microarray and Pfizer's clinical trials data.

**Computer Science and Engineering, The Ohio State University, Columbus, OH** 2003-2007

**Instructor/Teaching Assistant**

- Instructed Java class with full responsibility. Served as Assistant for "Programming Languages", and many times for "Database Systems" I & II and some programming classes.

**Center for Spoken Language Understanding, OGI, Oregon Health & Science University, Portland, OR** 2000-2002

**Research Assistant**

**Prosody Generation and Pitch Contour Prediction System** 2000-2001  
(C++, Edinburgh Speech Tools Library for Festival TTS toolkit)

- Implemented prosody model for more natural sounding speech synthesis.

**Bilkent University, Ankara, Turkey** 1999

**Senior Project: Turkish Speech Synthesizer (Scheme, Festival Toolkit)**

- Led the implementation of the first diphone-based Turkish Speech Synthesizer.
- Reviewed speech synthesis research, phonetics and pronunciation of Turkish, and produced a Turkish diphone database, coded finite state machines for Natural Language Processing.

## EDUCATION

- PhD, Computer Science and Engineering, The Ohio State University,** 2002-2007  
Columbus, OH
- MS, Computer Science and Engineering, Oregon Health & Science University,** 2000-2002  
Portland, OR
- BS, Computer Engineering, Bilkent University,** Ankara, Turkey 1996-2000

## SELECTED PUBLICATIONS

- *Building an Online Collaboration Platform Using XMPP and Open Source Software, Invited Tutorial Paper, O. Ozturk,* Proceedings of The 2010 International Symposium on Collaborative Technologies and Systems (CTS '10), Chicago, Illinois, May 2010.
- *LFM-Pro: A Tool for Detecting Significant Local Structural Sites in Proteins, A. Sacan, O. Ozturk,* H. Ferhatosmanoglu and Yusu Wang, **Bioinformatics**, 23(6):709-716, 2007.
- *Vector Space Indexing for Biosequence Similarity Searches, O. Ozturk* and H. Ferhatosmanoglu, Int'l Journal on Artificial Intelligence Tools, Oct 2005, pp. 811-826.
- *CoMRI: A Compressed Multi-Resolution Index Structure for Sequence Similarity Queries. H. Sun, O. Ozturk* and H. Ferhatosmanoglu. IEEE Computer Society Bioinformatics Conference (CSB '03). Stanford, CA. August 2003, pp. 553-558.
- *Effective Indexing and Filtering for Similarity Search in Large Biosequence Databases. O. Ozturk* and H. Ferhatosmanoglu. IEEE International Symposium on Bioinformatics and Bioengineering (BIBE '03), pp. 359-366. Washington, DC. March 2003.

## TALKS

- *Tutorial: Building an Online Collaboration Platform Using XMPP and Open Source Software, O. Ozturk,* The 2010 International Symposium on Collaborative Technologies and Systems (CTS 2010), Chicago, Illinois, USA

## GRANT PROPOSALS

- *Cyber-Enabled Trusted Service Exchange Networks, Y. Altunbasak, F. Fekri, O. Ozturk (Principal Investigator),* NSF Industrial Innovation and Partnerships Division, Small Business Innovation Research Phase I Application, 2009. (Revised resubmission 2010.)

## HONORS

- **Outstanding Graduate Student Award** from The Ohio State University for "outstanding contributions in the areas of leadership, scholarship, and service".
- Refereed for BIBE, ICDE, SAC, KDD, DASFAA conferences, and TKDE and DKE journals.
- Ranked 125<sup>th</sup> among 1.5 million students at University Entrance Examinations of Turkey.
- Full scholarship awarded for all undergraduate education.

## VOLUNTEER ACTIVITIES

- Cofounder of "Students For Dialogue", OSU, Columbus, OH** 2002-2007
- SFD organizes activities fostering diversity and intercultural dialogue.
- Tutoring a group of underprivileged, minority students for ACT Science Reasoning Test,** OMSI "Ohio Math and Science Initiative", Columbus, OH 2005

## SELECTED REFERENCES

- Faramarz Fekri, PhD (404) 513-1491 [fekri@ece.gatech.edu](mailto:fekri@ece.gatech.edu)  
Project Advisor at Georgia Institute of Technology
- Hakan Ferhatosmanoglu, PhD (614) 292-6377 [hakan@cse.ohio-state.edu](mailto:hakan@cse.ohio-state.edu)  
PhD Advisor
- Umit Catalyurek, PhD (614) 292-0914 [catalyurek.1@osu.edu](mailto:catalyurek.1@osu.edu)  
Instructor, Bioinformatics II