

PURVAG PATEL

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EDUCATION

Ph.D. Candidate, Computer Science	Southern Illinois University, GPA: 4.0/4.0	Jan 2010 - Present
M.S. Computer Science	Southern Illinois University, GPA: 4.0/4.0	Aug 2007 - Dec 2009
B.E. Computer Engineering	Gujarat University, Aggregate: 64%	Aug 2003 - Jun 2007

PROFESSIONAL EXPERIENCE

Software Engineer, Zillow.com **Feb 2013 – Present**

- Developing solutions for delivering personalized notifications on different types of devices and medium
- Creating personalized shopping experience for the users by enhancing UI experience
- Developing machine learning approaches to create personalized recommendations
- Collaborating with different teams and partners to deliver new features in short timeframe.

Environment: Java, Spring framework, J2EE, YUI, JavaScript, Python, SQL Server, Apache Tomcat, and Linux

CTO & Lead Developer, Get2kno Inc. - get2kno.com **Aug 2012 – Present**

- Collaborating with different partners and kick starting the startup
- Designing state-of-the-art algorithms for calculating “get2kno” score for ranking social media profiles
- Formulating machine learning techniques for clustering and sentiment analysis of social media profiles
- Participated in full development lifecycle from requirement gathering through production implementation
- Designing adaptors for connecting with Facebook, Twitter and LinkedIn

Environment: Spring MVC, Spring Social API, JSP, JSTL, Java and J2EE, MySQL, Apache, Apache Tomcat, and Linux

Software Engineer, evolve24, A Maritz Research Company **Apr 2013 – Feb 2014**

- Engineering social media analysis software for monitoring brands and their reputation
- Utilizing text mining techniques for filtering data, calculating sentiments and tones
- Developing solutions for accumulation and analyses of massive volume of social media data
- Leveraging NoSQL database, Hadoop, and Lucene for storage, mining, and searching
- Optimizing algorithms and implementing multi-threaded solutions to substantially increase throughput
- Following industry best practices including test-driven and agile development
- Designing machine learning techniques to identify emerging issues and brands
- Developed solutions to achieve 70% improvement in data retrieval mechanism
- Architected enhanced solutions for memory management of large volume textual data

Environment: Java, Spring framework, J2EE, Web Services, Cassandra, MySQL, Hadoop, Lucene/Solr, Lexalytics, Apache Tomcat, GWT, and Linux

Application Developer, Information Technology, Southern Illinois University **Aug 2011 - Dec 2012**

- Developed and customized an open source Identity Management (IDM) System
- Groovy scripting (approx. 80 scripts) for handling attribute mappings
- Programming customization for IDM System for integrating with AD 2003, AD 2008, LDAP, and Google APPs.
- Linux Server (CentOS and Ubuntu) installation, maintenance, and deployment on VMWare clusters
- Webmaster for multiple on campus websites
- Developing a dynamic Web UI and charts for visualization of various reports

Environment: Java, Grails, Groovy, Apache Tomcat, JQuery, Google Chart API, PHP, Oracle technologies,

I.T. Specialist Graduate Assistant, School of Social Work, Southern Illinois University **Aug 2009 - Aug 2011**

- Webmaster for www.socialwork.siu.edu - responsible for developing, designing, & maintaining the website
- Provided on-site computer support including general troubleshooting, repairing, maintenance of computers and LAN

Environment: HTML, CSS, JavaScript, and Adobe Creative Suite-Photoshop, Dreamweaver, and Fireworks

Programmer Graduate Assistant, Institutional Research, Southern Illinois University **Aug 2007 - Dec 2008**

- Principal programmer for the development of Illinois shared enrollment website
- Generated dynamic graphical reports using crystal-reports from a large database
- Optimization and data mining of the large database, and designing complex stored procedures in Oracle

Environment: ASP.NET, Oracle, Crystal reports

Programmer Trainee, Amba Tech., Adalaj, Gandhinagar, India **Jan 2007 - May 2007**

- Developed a comprehensive Hospital Management System
- Developed a generic solution for a health care provider for managing patients, employees, pharmacy, and OPD
- Designed a seamless front-end to be used by doctors, nurses and other staff at the hospital
- Provided a solution allowing interface with multiple databases such as MS-SQL Server, Oracle and MS-Access

Environment: VB.NET, C#, MS-SQL Server, MS-Access and Oracle

Tutor, Academy of Computer Training, Ahmedabad **Jan 2006 - Jul 2007**

- taught C,C++, Java and Visual basic

RESEARCH PROJECTS

CWShell: Expert system shell for Computing with Words, Ph.D. Dissertation

- CWShell is a next generation of artificial intelligent expert system for natural language processing
- Working on knowledge representation, and information processing for natural languages
- Designing generalized constraint language and its conversion to natural languages
- Define and implement a methodology that represents probabilistic statements in the form of Z-numbers
- Designing optimization techniques to perform automatic inference on Z-numbers
- Implementation of various fuzzy logic algorithms, such as fuzzy intersection, union, graph, and arithmetic in Java
- Developing two principle components: Java Core API (J2SE) and CWShell library in Jess, a rule based engine
- Alpha version of software available on: www.cwshell.cs.siu.edu

Improving Behavior of Computer Gaming Bots, Master's Thesis

- Designed a machine learning algorithm based on Q-Learning to improve behavior of computer gaming bots
- Developed miniature simulation of a First-Person Shooter game in Java Swing API
- Bots learned various behaviors in game scenario
- Design of Fictitious play, a game theory based machine learning algorithm, for video game agents

PUBLICATIONS

Refereed Journals

1. Nina Marhamati, Shahram Rahimi, **Purvag Patel**, Elham S. Khorasani, An evaluation of retranslation methods in computing with words, *Soft Computing*, Springer Berlin Heidelberg, vol. 18(10), pp. 2061-2073, 2014
2. **Purvag Patel**, Norman Carver and Shahram Rahimi, Bootstrapping learning from abstract models in games, *International Journal of Bio-Inspired Computation (IJBIC)*, vol. 5(4), pp. 239-251, 2013.
3. Elham S. Khorasani, **Purvag Patel**, Shahram Rahimi and Daniel Houle, An Inference Engine Toolkit for Computing with Words, *Journal of Ambient Intelligence and Humanized Computing*, Springer-Verlag, pp. 1-20, 2012.
4. Ushma Patel, **Purvag Patel** and Henry Hexmoor, Improving Behavior of Computer Game Bots using Fictitious Play, *International Journal of Automation and Computing*. vol. 9(2), pp. 122-134, 2012.
5. **Purvag Patel**, Chet Langin, Feng Yu and Shahram Rahimi, Network Intrusion Detection Types and Computation, *International Journal of Computer Science and Information Security*, vol. 10(1), 2012.

Refereed Conferences and Workshops

1. Nina Marhamati, **Purvag Patel**, Yousef Althobaiti, Elham S. Khorasani, Shahram Rahimi, Revisiting Linguistic Approximation for Computing with Words, AAAI Publications, The Twenty-Sixth International FLAIRS Conference, pp. 327-320, 2013.

2. **Purvag Patel**, Elham S. Khorasani and Shahram Rahimi, An API for Generalized Constraint Language based Expert System, Proceedings of the North American Fuzzy Information Processing Society, NAFIPS'12, 2012.
3. **Purvag Patel**, Norman Carver and Shahram Rahimi, Tuning Computer Gaming Agents using Q-Learning, Proceedings of the Federated Conference on Computer Science and Information Systems, pp. 581–588, 2011.
4. Elham S. Khorasani, Shahram Rahimi, **Patel Purvag** and Daniel Houle, CWJess: Implementation of an Expert System Shell for Computing on Computer Science and Information Systems, pp. 33-39, 2011. (Extended Paper)
5. Elham S. Khorasani, Shahram Rahimi, **Patel Purvag** and Daniel Houle, CWJess: An expert system shell for computing with words, 2011 IEEE International Conference on Information Reuse and Integration (IRI), pp. 396 - 399, 2011.
6. **Purvag Patel** and Henry Hexmoor, Designing BOTs with BDI Agents, The 2009 International Symposium on Collaborative Technologies and Systems, pp. 180-186, 2009.

MEMBERSHIP IN PROFESSIONAL ASSOCIATIONS

- Institute of Electrical and Electronics Engineers (IEEE)
- Association of Computing Machinery (ACM)