

Preeti Ramaraj

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Education

University of Michigan

Ph.D. in Computer Science and Engineering

January 2017 – April 2021

University of Michigan

GPA: 3.87/4.0

Master of Science in Computer Science and Engineering

September 2015 – April 2017

University of Mumbai

First Class with Distinction - 75%

Bachelor of Engineering (Computer Engineering)

August 2008 – May 2012

Research

University of Michigan (Graduate Student Research Assistant)

May 2016 – Current

My research with Dr. John Laird in the Soar lab focuses on developing techniques for Rosie, an interactive task learning (ITL) agent that dynamically learns new tasks, so that humans can discover and then employ its capabilities through natural language interaction.

ANFIS based Spam Filtering Model for Social Networking Websites

August 2011 – May 2012

Developed a method in which an adaptive neuro fuzzy inference system (ANFIS) that incorporates the advantages of both the neural networking concepts and fuzzy logic was used to identify spam messages on social networking websites. The paper describing this method was published in IJCA (International Journal of Computer Applications) - April 2012 Edition.

Projects

Mining Insights from Hardware Errata Documents

September 2016 – December 2016

Used errata documentation to identify interesting patterns and conclusions about product bugs, such as common sources of errors. Created a database of over 2,000 different ARM errata and experimented with natural language processing methods ranging from Word2Vec, non-negative matrix factorization and recurrent neural networks.

Motivated Learning – Replication project

January 2016 – April 2016

Replicated project based on the study specified in "Graham, J., Starzyk, J. A., Ni, Z., He, H., Teng, T. H., & Tan, A. H. (2015, July). A comparative study between motivated learning and reinforcement learning. In 2015 International Joint Conference on Neural Networks (IJCNN)(pp. 1-8). IEEE." in order to test the hypothesis that Motivated Learning earns a higher average reward than Reinforcement Learning in the custom dynamic environment specified. The hypothesis was replicated successfully.

Index-based Load Optimization in MySQL

September 2015 – December 2015

Implemented a drop-and-rebuild-indexes scheme around a load operation to automate this operation to improve performance of loading huge data into databases in MySQL

Experience

Microsoft (Software Engineer)

July 2012 – July 2015

- Instrumental in shipping of Release Management for Visual Studio 2013. Took end-to-end ownership of the front-end for the configuration tools for server and deployment agent using WPF and C#
- Contributed to releases in the Dynamics Marketing team. Incorporated TDD in execution and conducted a workshop for the team
- Microsoft Reference Management Center (MRMC) team in the Marketing space – Owned October '14 release involving system upgrade from CRM 2011 to CRM 2013 online and creating Power BI reports for the customers and business stakeholders.
- End-to-end ownership of migration of 'JADE' application (data warehouse for Microsoft's consulting business) to the internal Singularity hardware platform. Worked on SQL Server 2012 Proof-of-concept to adopt the SQL 2012 Always On feature in JADE.

Microsoft (Intern – Software Development Engineer)

June 2011 – August 2011

Worked on a project titled Central Data Dictionary – an anytime accessible Azure-based web application in which users can refer to the business descriptions and the various metadata of Warehouse database objects and cube measures.

Skills

Languages: C#, Python, JAVA, C++, VB.NET, SQL, SML (Soar Markup Language)

Web Technologies: HTML, JavaScript, WCF Services, WPF

Tools: Visual Studio, MATLAB, Eclipse, Microsoft SQL Server, MySQL, Microsoft Azure, IIS Server, Team Foundation Server, Power BI, Git

Links and Extracurriculars

Co-chair of ECSEL (Ensemble of CSE Ladies): July 2017 – June 2018

GitHub: <https://github.com/preetiramaraj>

LinkedIn: <https://www.linkedin.com/in/preetiramaraj>