PavanKalyan Yallamelli

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EXPERIENCE

RNET Technologies Inc, Dayton, Ohio, USA — June 2017 — Present

Software Engineer

- **2015 DOE SBIR: iNFORMER: A MapReduce-like Data-Intensive Processing Framework for Native Data Storage and Formats (Phase II, Principal Investigator, DE-SC0011312)** Develop a Native data FOrmat MapREDuce-like framework called iNFORMER. The framework allows MapReduce-like applications to be executed over data stored in a native data formats and filesystems, without loading the data into another filesystem. The product includes a low-overhead MATE processing engine with in-situ/in-memory processing capability and a Virtual Data Integrator (VDI) API for data access and integration. These components can also be integrated into existing popular Big Data platforms such as HPCC Systems or Hadoop to allow for direct access to data in native formats. I'm currently working on creating a data access components like Apache Hive and Pig for the proposed mechanism.
  Technologies Used: Apache Hadoop, Apache Hive, C++, MPI, Open MPI, MPICH_YARN
  Project Page: *https://www.sbir.gov/sbirsearch/detail/829099*
- **2014 NASA STTR: OrFPGA: An Empirical Performance Tuning Tool for FPGA Designs (Phase II, Principal Investigator, NNX14CA44P)** RNET in collaboration with Argonne National Lab (ANL) is developing an empirical performance tuning tool called OrFPGA , which is intended to facilitate automatic performance tuning of FPGA designs in terms of speed, power, and size. It is aimed at improving both performance and productivity by enabling FPGA designers to create simple scripts that will trigger various FPGA performance optimizations for a specific design. OrFPGA will generate various tuned versions of the same design with different designer parameters and evaluate the versions to select the best performing one for production use. The main contribution includes designing web interface and also developing the core modules for the project.
  Technologies Used: C++, FLTK, XILINX
  Project page: *https://www.sbir.gov/sbirsearch/detail/702675*
- **2016 DOE SBIR: Cloud-based Scientific Workbench for Nuclear Reactor Simulation Life Cycle Management (Phase II, Principal Investigator, DE-SC0015748)** Develop a web-based platform for the nuclear energy simulation that facilitates relevant code identification and sharing, remote execution in a cloud/cluster, and collaboration between geographically distributed nuclear engineers. This workbench assists the user in setting up, executing, and visualizing advanced simulation application and workflow. This will enable ease use of NEAMS and other nuclear engineering software, easy sharing of knowledge, and quick feedback mechanism.
  Technologies Used: Java, vaadin, Python
  Project page: *https://www.sbir.gov/sbirsearch/detail/1367235*

RNET Technologies Inc, Dayton, Ohio, USA — May 2016 — Aug 2016

Reseach Intern

Description: This project will develop a Native data FOrmat MapReduce-like framework, iNFORMER, based on OSUs Sci- Mate project. The framework allows MapReduce-like applications to be executed over data stored in a native data formats and filesystems, without loading the data into another file system such as HDFS.
Technologies Used: Apache Hadoop, Apache Hive, C++, MPI, Open MPI, MPICH_YARN
Project Page: *https://www.sbir.gov/sbirsearch/detail/829099*

Soham Online Solution Private Limited, Hyderabad India — June 2013 — July 2014

Senior Software Engineer

Description: Created a Dynamic e-commerce website for Spa Industry which was used by 350 organizations.The features of this project include Online Engagement & Sales, Integrated online payment gateways, Integrated Salon, Online Booking, Social media sharing and Customer feedback used to promote salon service
Technologies Used: ASP.Net,JavaScript,Mysql, Mysql Server, SQL Server 2008,Apache Tomcat, BootStrap, CSS, HTML.
Project Page : *http://www.managemyspa.com/spa-software/webstore.html*

Visakhapatnam Steel Plant, Visakhapatnam, India — May 2012 — July 2012

Software Intern

Description: A web application on "Scrap Dispatching Management Information System" according to the Organization requirement. This application is used by all most 5000 employees in the organization
Technologies Used: JSP and Html as Front-end and Oracle 10g as a back end.

EDUCATION

Master of Science (M.S.) in Computer Science

Aug 2014 — Apr 2017

Knoesis Center,Wright State University, Dayton, Ohio, USA

- **Thesis: A Co-training Approach for Multi-view Power Iteration Clustering In Distributed platform:** We are proposing a power iteration clustering algorithm on multiple views of data, each of which can be independently used for clustering. Our algorithm makes use of machine learning technique for the co-training purpose. The core idea of our work is that the clustering from one view should agree with the clustering from another view.
- **Adviser**: Dr. Amit P Sheth
- **GPA:** 3.3/4

PROJECTS

Resume Recommendation:
Currently Lead developer and researcher for the Resume Recommendation project, a platform designed to match and rank the resume for a particular Job description which includes creating a Knowledge Graph.
Technologies used: Java, Java EE,REST API's,MongoDB,ElasticSearch
Material Science:
Lead developer in developing a collaborative knowledge management system to make the assertion in Material Science using W3C vocabularies and creating semantic infrastructure including the ability to create semantic metadata for a variety of data types utilizing domain models and knowledge bases.
For details, please visit: *http://www.knoesis.org/research/SemMat*
Technologies used: Sparql,PHP,Virtuoso,Docker,RDF and OWL
Twitris:
Jr developer of Twitris, a web application that facilitates understanding of social perceptions by Semantics-based processing of event-centric data. It addresses challenges in large-scale processing of social data while leveraging spatial, temporal, and thematic properties.
For details, please visit: *http://knoesis.org/projects/twitris*
Web Administrator - Designed and Maintaining the website for Kno.e.sis center using JavaScript, PHP, MYSQL, Anglare.JS, and Drupal
For details, Please visit: *http://knoesis.org/*

SKILLS

Programming: Java(multithreading, Synchronization), Java EE, Visual C, Python, Visual C++, C#, ASP.NET, Matlab, PHP, HTML, Javascript, SPARQL.
Tools & Softwares: Database (MYSQL, Virtuoso, MongoDB, SQL Server 2008, Oracle 10g), Information Retrieval (Lucene), Natural Language Processing (Stanford CoreNLP), Version Management (SVN, GIT), Big Data (Hadoop, Hive, Pregel Abstraction), open to learning new skills. Others(Ansible, Docker, Vagrant, ElasticSearch, Bootstrap, CSS). **Platforms**: Linux, Windows, Mac OS.

PUBLICATIONS

N. Jaykumar, **P. Yallamelli**, V. Nguyen, S. Lalithsena, K. Thirunarayan, A. Sheth, C. Paul
KnowledgeWiki: An OpenSource Tool for Creating Community Curated Vocabulary, with a Use Case in Materials Science.

INTERESTS

Research; Knowledge Graphs; Semantic Web; Text Mining; Information Retrieval; Social Data Analysis; Graph Clustering; Web Development; Programming