SAURAV NANDA

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EDUCATION

Purdue University, West Lafayette, USA *Aug 2014 - Current*
Ph.D. Student, Computer and Information Technology *GPA 3.92*
Research Area: Maintaining performance-based SLAs for applications hosted in cloud environment.
Advisor: Dr. Thomas J Hacker

Indian Institute of Technology (IIT) Kharagpur, India *May 2009*
M.Tech. School of Information Technology
Masters Thesis: Prediction of Optimal Attack Path using Soft Computing Techniques.

Siddaganga Institute of Technology, India *July 2007*
B.E. Computer Science and Engineering
Project: Implementation of Periodic Group Re-keying Methods for Secure Multicast Communication.

PUBLICATIONS

1. Nanda, S., Hacker, T. J., and Lu, Yung, H. (2016). Predictive model for dynamically provisioning resources in multi-tier web applications. In *8th IEEE International Conference on Cloud Computing Technology and Science (CloudCom)*. IEEE (**Accepted**).
2. Nanda, S., Zafari, F., DeCusatis, C., Wedaa, E., and Yang, B. (2016). Predicting Network Attack Patterns in SDN using Machine Learning Approach. In *IEEE International Conference on Network Function Virtualization and Software Defined Network (NFV-SDN)*. IEEE (**Accepted**).
3. Nanda, S and Hansen, R. A. (2016). Forensics as a service: Three-tier architecture for cloud based forensic analysis. In *IEEE International Conference on Cloud Computing And Big Data*. (**Accepted**).
4. Ghosh, N., Nanda, Saurav, and Ghosh, S. (2009). A quantitative approach towards detection of an optimal attack path in a wireless network using modified PSO technique. In *Proceedings of the IEEE International Conference on Communication Systems and Networks and Workshops. COMSNETS 2009*, pages 1-10. IEEE.
5. Ghosh, N., Nanda, Saurav, and Ghosh, S. K. (2010). An ACO based approach for detection of an optimal attack path in a dynamic environment. In *Proceedings of the 11th International Conference on Distributed Computing and Networking. ICDCN 2010*, pages 509-520. Springer.

RESEARCH AREAS

· Cloud Computing, HPC, Dynamic Resource Provisioning, Live Migration of VMs, and SDN.
· Control System, Machine Learning Algorithms, Noise Filters, and Predictive Models.

RESEARCH EXPERIENCE

Graduate Research Assistant, Purdue University Aug 2015 - Present

· Responsible for managing the High Performance Computing (HPC) lab that includes a small data center, which is used by graduate students to perform HPC and cloud-based research experiments.
· Deployed an OpenStack based cloud infrastructure in HPC Lab for providing Hadoop clusters to 24 grad students for Cyber Infra & Big-Data Analytics course (CNIT 581) in Fall 2015.

Summer Research Project, University of Stavanger, Norway Jun 2015 - Aug 2015

· Implemented a scheduling algorithm for live migration of virtual machines to improve the user experience of the applications hosted in cloud environment.
· Deployed an OpenStack based Cloud infrastructure to host more than 15 Hadoop clusters for academic research purposes.

INDUSTRY EXPERIENCE

Chief Technology Officer at Abhitech IT Solutions, Lucknow, India Jan 2010 - Jul 2014

- Led the technical front of an emerging start-up company for more than four years, and handled clients across the globe. Delivered more than 10 big and 40 small projects with a team of 20 professionals.
- Expertise in Customized Web Application and Mobile Application (iOS, Android) Development.

TEACHING EXPERIENCE

Graduate Teaching Assistant, Purdue University, USA
- CNIT 460 High Performance Computing Systems *Aug 2016 - Dec 2016*

Assistant Professor, Lovely Professional University, India
- Course: Programming in Linux. *Aug 2009 - Dec 2009*

Graduate Teaching Assistant, IIT Kharagpur, India
- Computing Systems Lab *Aug 2008 - Dec 2008*
- Internet Technologies Lab *Jan 2009 - May 2009*

HONOURS AND AWARDS

2nd Prize in Green IronHack 2016 Purdue University, RCODI (April 2016)
- An application to find fresh vegetables in your locality using a mashup of open-data.

2nd Prize in Black IronHack 2016 Purdue University, RCODI (Oct 2016)
- An application to optimize travel options relative to the virus presence and whether it is safe.

TECHNICAL STRENGTHS

Web Technology	HTML, CSS, Javascript, JQuery, Adobe InDesign, XML, JSON
Programming Languages	C, C++, Objective C, PHP, Python, Matlab
Virtualization Hypervisors	KVM, VMware Fusion, VirtualBox, QEMU, Xen, ESXi
Databases	MySQL, Oracle, MongoDB, Hive
Others	Microsoft Azure, Docker, Amazon AWS, OpenStack, git, Latex

TERM PAPERS AND COURSE PROJECTS

Enhancing Traffic Safety using IoT-based V2V communication Purdue University (Fall 2016)
- Working on a multi-channel architecture to control ad-hoc vehicular networks via secure communication.

Data Driven Decision Making Purdue University (Spring 2016)
- Presented a Framework for Data Driven Decision Making in Educational Environment.

Analysing and Forecasting of Trends in Wikipedia Pages Purdue University (Fall 2014)
- We analyzed most popular pages in given time period using trend analysis and forecasting the trends.

Search Engine Spam Avoidance Technologies IIT Kharagpur (2008)
- Analyzed the influence of spam and presented different spam avoidance techniques.

Security Model for Web Services IIT Kharagpur (2008)
- Focused on challenges in fault-tolerance, security composition, and transaction-process ability.

Mobile Commerce Technologies and Solutions IIT Kharagpur (2008)
- Analyzed the WAP standard for faster and reliable communication for improvement in m-commerce.

Performance Evaluation in Parallel Databases IIT Kharagpur (2007)
- Analyzed design of database systems by estimating the relative performances and potential bottlenecks.

MEMBERSHIPS AND VOLUNTEERING

1. Webmaster, Asha for Education Purdue Chapter (Jan 2015 - Present)
2. Participated in 1st Arctic Data Symposium, organized by the University of Stavanger (Mar 15-17, 2016)
3. IEEE Student Member (Valid till December 31, 2017)