



Aviral Nigam

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Education

Aug,2016– Present **MS Computer Science and Engineering**, *SUNY Stony Brook*, Stony Brook, USA.

- Courses
 - Operating System, Asynchronous System, System Security & Big Data Analysis

May,2013 **BTech Computer Science and Engineering**, *NIT Calicut*, Kozhikode, India.

- Student Mail Administrator
 - Lead Google Apps Team, which handled the mail server and mail accounts, for staff and students of NIT - Calicut.
- Student Lab Administrator
 - Administrated Software Systems Lab, which housed 70 Ubuntu lab systems and 5 CentOS servers for CSE Department of NIT - Calicut.

Publications

Nigam, Aviral, Snehal Chauhan, and Varsha Murali. "Rent or self-execute? Resource management strategies for cloud providers." In *Advances in Computing, Communications and Informatics (ICACCI), 2013 International Conference on*, pp. 1657-1661. IEEE, 2013.

Nigam, Aviral. "Web Crawling Algorithms." *International Journal of Computer Science* 4, no. 3 (2014): 63-67.

Work Experience

May,2013– July,2016 **Technology Analyst**, *Goldman Sachs Services Private Limited*, Bengaluru, India.

Projects

- Digital Identity Management
 - Provided standardized data model for management of all the digital identities existing in the firm.
 - Constructed an automated flow around the digital identity management.
 - Scoped digital identities to largely reduce the security risk due to unknown usage context.
 - Integrated OpenDj Directory Services with the Linux environment of the firm in order to facilitate evolution from NIS to LDAP.
- Secure File Xchange
 - Architected and developed file transfer solution for transferring files in and out of the firm.
 - Multiple protocol gateways for file exchange supporting FTP, sFTP, SCP and HTTPs standards.
 - Provided features for both automated and manual files transfers.
- AppRover
 - Developed an engine to analyze process and netstat data from all the servers in the firm to provide application visualisation.
 - Eliminated the risk due to unknown architecture of legacy applications and unknown usage of digital identities.
- One Time Password
 - Architected and developed a stateless OATH compliant two factor authentication system.
 - Eliminated the risk of third party seed compromise as seeds reside within the firm's infrastructure.

May–July 2012 **Summer Intern, Indian Institute of Technology, Bombay, Mumbai, India.**

○ Virtual Chemistry Lab

- Developed an interactive simulator that demonstrated chemistry experiments.
- Students could perform experiments and get automated evaluation.
- Provided feature for recording and viewing the activities of an experiment.

Academic Projects

Aug,2012– May,2013 **Various Methods of Load Balancing in Cloud Computing.**

- Studied the load balancing algorithms in cloud computing and proposed an efficient method for load balancing in cloud environment.
- Designed an algorithm - “Rent or Self-execute Strategy in Clouds” enabling a cloud owner to decide whether to execute an incoming batch of jobs in an internal Cloud or pay rent to execute them in an external Cloud.
 - Use of forecasting methods to predict the strategy and game theory to decide it.
 - Allow cloud providers to expand the execution power of their cloud environment dynamically and efficiently, creating the illusion of infinite resource availability.

Jan–May 2013 **Web Crawling Algorithms.**

- Studied the algorithms used by web crawlers to traverse the Internet and tackled the problem of efficient traversal using A* and Adaptive A* Search Algorithms.
- Implemented the web crawling algorithms, and comparatively studied their total traversal time which revealed that Adaptive A* Search algorithm shows better run time than most of the traversal algorithms for huge load of searches.

July–Dec 2012 **Multi Agent Based Information Warfare System.**

- Implemented an interactive simulator for Informative War Agents using Java Agent Development Environment (JADE) & Multi-Agent Development Kit (MADKIT).
 - The system used an improved Contract Net Protocol for the entity-agent interaction model.
 - The model can be used to understand the information processing of IWS and dynamic battle space environment.

Technical Skills

Language JAVA, Python, C, Bash Script
Database Cassandra, DB2, Mongo, Elastic Search
Directory OpenDJ, Active Directory Services
Operating System Ubuntu, RHEL, Windows

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