



# 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 **Summer Intern, Indian Institute of Technology, Bombay, Mumbai, India.**

2012 ○ 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.

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## Academic Projects

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

May,2013

- 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 **Web Crawling Algorithms.**

2013

- 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 **Multi Agent Based Information Warfare System.**

2012

- 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.

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## Technical Skills

Language JAVA, Python, C, Bash Script

Database Cassandra, DB2, Mongo, Elastic Search

Directory OpenDJ, Active Directory  
Services

Operating Ubuntu, RHEL, Windows  
System

*Aviral Nigam*