Dibyendu Nath | *Dev*

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Education

University of California, Santa Barbara – Santa Barbara, CA — *Sep 2013 - Present*
Master of Science, Computer Science — *GPA: 3.90 / 4.0*

Advisors: Prof. Chandra Krintz, Prof. Rich Wolski

Courses: Cloud Computing, Advanced Operating Systems, Distributed Computing, Scalable Internet Services, Data Intensive Computing, Information Retrieval, Advanced Data Mining

West Bengal University of Technology – Kolkata, India — *Aug 2007 - Jul 2011*
Bachelor of Technology, Computer Science & Engineering — *GPA: 8.74 / 10.0*

Experience

University of California, Santa Barbara — Santa Barbara, CA
Research Assistant, RACELab — *Sep 2013 – Present*
– CloudRunner : Cloud Computing Management Framework
Teaching Assistant, Dept. of Computer Science — *Sep 2013 – Jun 2014*
– Data Structures & Algorithms, Foundations of Computer Science, Python Programming

AppFolio Inc. — Goleta, CA
Software Engineering Intern — *Jun 2014 – Sep 2014*
– RentMatch : Appfolio's Pricing Analytics (Data Science) team

McAfee Inc. — Bangalore, India
Software Development Engineer — *Feb 2012 – Aug 2013*
– Endpoint Encryption for Files and Folders (EEFF) team

Indian Statistical Institute — Kolkata, India
Research Intern, Computer Vision and Pattern Recognition Unit — *Jul 2010 – Jun 2011*

Technical Skills

Programming: Extensively coded in ***C/C++, Java, Python, Ruby.*** Proficient in *shell scripting, SQL, Scala.*
Tools & Platforms: Amazon AWS, Azure, RabbitMQ, Celery, Hadoop, Apache Spark, Weka, NLTK, Stanford NLP.
Web: Rails, JavaScript, HTML, CSS, JEE. **Operating Systems:** Linux, Windows.

Projects

CloudRunner : Cloud Computing Management Framework — *Fall 2014 – present*

– Building a generic cloud computing management framework for configuring virtual machines and auto-deploying arbitary programs in the cloud by wrapping the source code as a web service, as well monitoring task progress.

RentMatch : AppFolio's Pricing Analytics — *Summer 2014*

– Worked in AppFolio's Data Science team on finding *Rental Unit Similarity* using machine learning methods according to features like amenities, location, linked census data, etc. Also built **SuperSquirrel**, a *MapReduce* like framework for collecting and processing data, distributed across AppFolio's data centers.

RichCoin : Cloud-based Infrastructure for BitCoin Mining — *Spring 2014*

– Designed and built a fault-tolerant, scalable web service for computing proof-of-work function for mining a fictitious bitcoin over disparate computing infrastructures like Amazon AWS, Azure, Condor, for feasibilty demonstration.

StockMood : Sentiment Analysis of StockTwits — *Winter 2013*

– Developed a Prediction model for Stock Market trends from sentiment analysis of StockTwits, a Twitter-like microblogging platform for stock market news, employing supervised machine learning methods.

eFUSE : Encrypted File System in User Space — *Fall 2013*

– Built an encrypted file system in user space, based on the Unix File System using FUSE and OpenSSL libraries (AES encryption). Optimized read/writes by implementing LRU based buffer and inode caching.

EEFF : Endpoint Encryption for Files and Folders – *McAfee* — *Feb 2012 – Aug 2013*

– Worked on releases 3.2.9, 4.1 & 4.2, using C/C++ for client-side (including filter driver development) and Java *(Spring Framework)* & Javascript for server-side coding.
– Developed and demonstrated feasibility of **"Kill Pill"** Proof of Concept – remote deactivation and secure wiping of encrypted USB devices (EERM encryption).

– Other features developed include **Key Cache Expiry,** code overhaul for **FIPS-140** encryption standard compliance, **Role-Based Key Management,** enhanced encrypted removable media recovery, etc.

Trac.kr : A Scalable Web App for tracking goals *Fall 2013*

– Developed a *Scalable Social Web Service*, that keeps track of goals that the user wants to achieve in areas like hobbies, socializing, family, health where your friends can offer suggestions, cheer you on or join a shared goal, etc.

Query Expansion Improvement in Terrier – *Indian Statistical Institute* *Jul 2010 – Jun 2011*

– Optimized Query Expansion in *Terrier Information Retrieval Platform* by exploiting semantic relationships amongst words in conjunction with **Local Context Analysis** techniques, using **WordNet** for semantic similarity and implementing them in its Divergence from Randomness (DFR) framework.

DMS-OS : A 32-bit Operating System – *B. Tech Project* *Aug 2010 – May 2011*

– Developed a rudimentary 32-bit operating system from scratch with multi-tasking support, modeled after the Linux Kernel. Features supported include *Real-time Keyboard Input, Visual Display Support, Floppy (FAT12) File System Support, Process Scheduling*, etc. For investigating how the Linux Kernel works. some kernel modules like a device driver for reading/writing to video RAM, etc. were also developed.

Publications

D. Nath, S. Ray, S.K. Ghosh, **"Fingerprint Recognition System: Design & Implementation",** Proceedings of International Conference on Scientific Paradigm Shift In Information Technology & Management, SPSITM'11, January, 2011.

Awards & Honors

- Ranked **585th (99.57 percentile)** out of about 130,000 students in *Computer Science,* in *Graduate Aptitude Test in Engineering, 2011* (Entrance exam for Indian Graduate School Admissions for IITs/NITs etc).
- Recipient of **National Merit Scholarship** for a top performance of **rank 49** in *State Secondary Examination, 2005* among about 700,000 students.
- Secured **9.27 SGPA** *(department highest) in 5th Semester* of undergraduate coursework and ranked consistently in the **top 10%** of department (among 120 students).
- Awarded **Chitroprobha Upadhi Certification** in 2003 after completing a **6-year course on Painting (Arts)** by *Bengal Music College, Kolkata, India*.

References

On Request.