

Dibyendu Nath | Dev

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EDUCATION

University of California, Santa Barbara – Santa Barbara, CA <i>Master of Science, Computer Science</i> Advisors: Prof. Rich Wolski, Prof. Chandra Krintz	Sep 2013 - Jun 2015 GPA: 3.92 / 4.0
West Bengal University of Technology – Kolkata, India <i>Bachelor of Technology, Computer Science & Engineering</i>	Aug 2007 - Jul 2011 GPA: 8.74 / 10.0

EXPERIENCE

University of California, Santa Barbara <i>Research Assistant, RACE Lab</i> – StochSS : Cloud-based Stochastic Simulation as a Service <i>Teaching Assistant</i> – Data Structures & Algorithms, Foundations of CS, Python Programming	Santa Barbara, CA Sep 2014 – Present Sep 2013 – Jun 2014
AppFolio Inc. <i>Software Engineering Intern</i> – RentMatch : Appfolio's Pricing Analytics (Data Science) team	Goleta, CA Jun 2014 – Sep 2014
McAfee Inc. (now known as <i>Intel Security</i>) <i>Software Development Engineer</i> – Endpoint Encryption for Files and Folders (EEFF) team	Bangalore, India Feb 2012 – Aug 2013
Indian Statistical Institute <i>Research Intern, CV & PR Unit</i> – Query Expansion Improvement in Terrier Search Engine	Kolkata, India Jul 2010 – Jun 2011

TECHNICAL SKILLS

Programming: Extensively coded in *C/C++, Java, Python, Ruby*. Proficient in *shell scripting, SQL, Scala, Go*.
Web: Rails, Django, JavaScript, HTML, CSS, JEE. **Operating Systems:** Linux, Windows.
Tools & Platforms: RabbitMQ, Celery, Eucalyptus, Hadoop, Weka, NLTK, Scikit-learn, Stanford NLP, Amazon AWS, Google App Engine, MySQL.

PROJECTS

StochSS : Cloud-based Stochastic Simulation as a Service – <i>Research at RACE Lab</i> – Building a generic cloud computing framework for configuring virtual machines and auto-deploying arbitrary scientific simulation programs in the cloud by wrapping the source code as a web service. – Working on data management extension for analyzing and visualizing terabyte-scale generated simulation output.	Fall 2014 – present
RentMatch : AppFolio's Pricing Analytics – <i>AppFolio</i> – Worked in AppFolio's Data Science team on finding <i>Rental Unit Similarity</i> using machine learning methods based on features like amenities, associated text, school districts, location, linked census data, etc. – Designed and built Super Squirrel , a <i>MapReduce</i> like framework for collecting and processing data, distributed across AppFolio's data centers.	Summer 2014
EEFF : Endpoint Encryption for Files and Folders – <i>McAfee</i> – Worked on enterprise encryption product for Windows endpoints – contributed to client-side (including filter driver development) as well as server-side ePO management codebase. – Developed ' Kill Pill ' Proof of Concept – remote deactivation and secure wiping of encrypted USB devices. – Other features developed include Key Cache Expiry , code overhaul for FIPS 140-2 encryption standard compliance, Role-Based Key Management, enhanced encrypted removable media recovery, etc.	Feb 2012 – Aug 2013
RamseyCoin : Cloud Infrastructure for BitCoin Mining – Designed and built a fault-tolerant, scalable P2P service for computing proof-of-work function for mining a fictitious bitcoin over disparate computing infrastructures like Amazon AWS, Azure, Condor, for feasibility demonstration.	Spring 2014
eFUSE : Encrypted File System in User Space – 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.	Fall 2013
Chimera : Distributed Bank Ledger – Designed and built a fault-tolerant, distributed, consistent store for a bank ledger where transactions can be recorded in replicated logs using a modified version of Paxos protocol to achieve consensus.	Fall 2014

StockMood : Sentiment Analysis of StockTwits

Winter 2014

- 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.

Trac.kr : A Scalable Web App for tracking goals

Fall 2013

- Developed a *Scalable Social Web Service* in *Rails*, 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 IR Platform – Indian Statistical Institute

Jul 2010 – Jun 2011

- Optimized Query Expansion in *Terrier Information Retrieval Platform* by exploiting semantic relationships amongst words using **WordNet** in conjunction with **Local Context Analysis** techniques.

DMS-OS : A 32-bit Operating System – B. Tech. Project

Aug 2010 – May 2011

- Built a rudimentary 32-bit operating system from scratch with multi-tasking support, modeled after the Linux Kernel. Coded kernel modules for device drivers for managing *Keyboard*, *Visual Displays*, *FAT12 File System*, etc.

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

- Secured a *world-wide* rank of **57 (11th in US)** in *Quora Haqathon 2014*.
- 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).
- Secured a *world-wide* rank of **3985 (288th in India)** in *Google Code Jam 2010* and got through the Qualification Round.
- Ranked among **top 2%** in *State Engineering Entrance Examination, 2007*.
- Awarded **Chitroprobha Upadhi Certification** in 2003 after completing a **6-year course on Painting (Arts)** by *Bengal Music College, Kolkata, India*.