

Dibyendu “Dev” Nath

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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

Google Inc. <i>Software Engineer</i> – Google Shopping Ads Serving Infrastructure	Mountain View, CA Aug 2015 – Present
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 – Jun 2015 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, Go*.
Web: Rails, Django, JavaScript, HTML, CSS, JEE. **Operating Systems:** Linux, Windows.
Machine Learning: scikit-learn, TensorFlow, Weka, NLTK, Mallet, Stanford NLP.
Tools & Platforms: Hadoop, Spark, MapReduce/Flume, RabbitMQ, Celery, memcached, MySQL, Eucalyptus, Amazon AWS, Google App Engine, Google Cloud Platform.

PROJECTS

Google Shopping Ads Serving Infrastructure – Google Inc.	Aug 2015 – present
<ul style="list-style-type: none">Member of the engineering team for Google Shopping Ads Serving infrastructure, involved in development of the serving stack and indexing pipeline for shopping ads.Working on latency improvements, adding new features and fixing critical bugs.Part of the on-call rotation, helping to debug & resolve production issues, and taking care of daily releases.	
StochSS : Cloud-based Stochastic Simulation as a Service – Research at RACE Lab	Fall 2014 – Spring 2015
<ul style="list-style-type: none">Built 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.Developed Flex Cloud, a lightweight cloud service abstraction layer for supporting simulation runs over different infrastructures (physical, virtual, as well as public or private clouds).	
RentMatch : AppFolio’s Pricing Analytics – AppFolio	Summer 2014
<ul style="list-style-type: none">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.	
EEFF : Endpoint Encryption for Files and Folders – McAfee	Feb 2012 – Aug 2013
<ul style="list-style-type: none">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.	

RamseyCoin : Cloud Infrastructure for BitCoin Mining

Spring 2014

- 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.

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.

Chimera : Distributed Bank Ledger

Fall 2014

- 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.

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.

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* (Indian Graduate School Admission Exam 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).
- 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*.