

# Dibyendu “Dev” Nath

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## EDUCATION

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

## EXPERIENCE

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<b>Google LLC</b> <i>Software Engineer</i> – Google Shopping Ads Serving Infrastructure	Mountain View, CA Aug 2015 – Present
<b>University of California, Santa Barbara</b> <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
<b>AppFolio Inc.</b> <i>Software Engineering Intern</i> – RentMatch : Appfolio’s Pricing Analytics (Data Science) team	Goleta, CA Jun 2014 – Sep 2014
<b>McAfee Inc.</b> (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
<b>Indian Statistical Institute</b> <i>Research Intern, CV &amp; PR Unit</i> – Query Expansion Improvement in Terrier Search Engine	Kolkata, India Jul 2010 – Jun 2011

## TECHNICAL SKILLS

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**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.

## RECENT PROJECTS

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<b>Google Shopping Ads Serving Infrastructure</b> – <i>Google LLC</i>	Aug 2015 – present
– 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 to scale up serving systems and fixing critical bugs. – Part of the on-call rotation, helping to debug & resolve production issues, and taking care of daily releases.	
<b>StochSS : Cloud-based Stochastic Simulation as a Service</b> – <i>Research at RACE Lab</i>	Fall 2014 – Spring 2015
– 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).	
<b>RentMatch : AppFolio’s Pricing Analytics</b> – <i>AppFolio</i>	Summer 2014
– 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 <b>Super Squirrel</b> , a <i>MapReduce</i> like framework for collecting and processing data, distributed across AppFolio’s data centers.	
<b>EEFF : Endpoint Encryption for Files and Folders</b> – <i>McAfee</i>	Feb 2012 – Aug 2013
– 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 <b>Key Cache Expiry</b> , code overhaul for <b>FIPS 140-2</b> 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.

### **AWARDS & HONORS**

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- Awarded multiple **peer bonuses** & **spot bonuses** as a *Google software engineer* for going beyond the call of duty and completing critical launches.
- Ranked **585<sup>th</sup> (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.
- 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*.