

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. Chandra Krintz, Prof. Rich Wolski	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 LLC <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 Oct 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. <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*. Proficient in *shell scripting, SQL, Go, Ruby*.
Web: Rails, Django, JavaScript, HTML, CSS, JEE. **Operating Systems:** Linux, Windows.
Machine Learning: scikit-learn, TensorFlow, NLTK.
Tools & Platforms: Hadoop, Spark, MapReduce/Flume, RabbitMQ, Celery, memcached, MySQL, Eucalyptus, Amazon Web Services, Google Cloud.

SELECT PROJECTS

Google Shopping Ads Serving Infrastructure – Google LLC – Member of the engineering team for Google Shopping ads serving infrastructure, involved in development of the serving stack and indexing pipeline for shopping ads. – Adding new features to scale existing serving systems & make them reliable and fault-tolerant; working on latency improvements and fixing critical bugs. – Building new infrastructure for showing organic shopping related results for queries on google.com.	Aug 2015 – present
StochSS : Cloud-based Stochastic Simulation as a Service – RACE Lab, UC Santa Barbara – 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 <i>Flex Cloud</i> , a lightweight cloud service abstraction layer for supporting simulation runs over different infrastructures (physical, virtual, as well as public or private clouds).	Fall 2014 – Spring 2015
RentMatch : AppFolio’s Pricing Analytics – AppFolio Inc. – 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 – McAfee Inc. – 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

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.

PUBLICATIONS

Drawert, B., Hellander, A., Bales, B., Banerjee, D., Bellesia, G., Daigle Jr, B.J., Douglas, G., Gu, M., Gupta, A., Hellander, S., Horuk, C., Nath, D., et al 2016. “**Stochastic Simulation Service: Bridging the Gap between the Computational Expert and the Biologist.**” PLOS Computational Biology, 12(12), p.e1005220.

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

- Awarded multiple **peer bonuses & spot bonuses** as a *Google software engineer* for going beyond the call of duty and completing critical project launches.
- 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 securing **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** by *Bengal Music College, Kolkata, India*.