Ankit Kumar

Personal Information		
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Education

Master's Degree (M.Tech) — July 2015 – May 2017
Dept. of Computer Science and Engg., Indian Institute of Technology, Kanpur
Area: Type Theory
Advisor: Dr. Anil Seth
CPI: 8.5 (after 3rd semester)
Courses:
Type Theoretic Foundations of Programming Languages, Programs Proofs and Types, Category Theory, Functional Programming, Mathematics for Computer Science, Principles of Programming Languages , Design and Analysis of Algorithms, Online Learning and Optimization

Bachelor's Degree (B.Tech) — July 2006 – May 2010
Dept. of Electrical Engg., Indian Institute of Technology, Banaras Hindu University, Varanasi
GPA: 7.94

Schooling
Delhi Public School, Dhanbad, affiliated to Central Board of Secondary Education
12th Board (CBSE 2006): 89.8%, awarded proficiency in Physics by CBSE board
10th Board (CBSE 2004): 92.2%, awarded proficiency in Maths by CBSE board

Research Projects

Dissertation — Sept 2016 - Present
Working on extensions to the LTheta language proposed in Casinghino et al's paper "Step-Indexed Normalization for a Language with General Recursion" under Dr. Anil Seth.

Mechanizing the Metatheory of TAL-0 Language — Aug - Nov 2016
Mechanized the proof of soundness of the TAL-0 type system in Coq. TAL-0 type system was introduced by Greg Morrisett in his paper Typed Assembly Language. This project was undertaken as part of Programs, Proofs and Types course in the third semester, taken by Prof. Piyush P. Kurur.
Project repository : https://github.com/ankitku/TAL0

Optimizing Non-decomposable Performance Measures — Jan - Apr 2016
in On-line Active Learning Setting
Theory project in which we tackled the problem of classification in extreme class imbalance in an active learning setting. We setup Narasimhan et al's stochastic primal-dual solver (SPADE) algorithm with selective sampling and derived bounds on sampling complexity and regret. This project was undertaken under the guidance of Prof. Purushottam Kar, for Online Learning Course in the second semester.
Project Report: https://gist.github.com/ankitku/4074778f81b0f1a84b0d0ba408da25cc

LambdaJudge — Aug - Nov 2015
Wrote a library to easily host Haskell based programming competitions, in Haskell, as part of the functional programming course taken in first semester.
Hackage link : https://hackage.haskell.org/package/Lambdajudge

Interpreter in Oz — Aug - Nov 2015
Implemented an interpreter for a language following the declarative sequential model in Oz language. Some features of this language include variable creation, variable binding, if-then-else, records, pattern matching, procedure calling and application and multi-threading. This project was done as part of Principles of Programming Languages course.
Project repository : http://hub.darcs.net/ankitku/MozartHW/browse/HW2/Interpreter.oz

Teaching Experience	**Tutor for Esc101 course**	Aug - Nov 2016

Teaching Experience

Tutor for Esc101 course   Aug - Nov 2016

As a tutor for the course Esc101 titled "Fundamentals in Computing", my duties include taking course lectures, setting lab problems and clearing doubts. I have been selected to continue as Tutor for the next semester (Jan-Apr 2004) as well.

Work Experience

SDE II at Olacabs (Bangalore)   Sept 2012 - Nov 2013

Rewrote the second version of Olacabs android consumer app.
Performance enhancement of the Olacabs driver app which sends the location of cab to backend services.
Worked on cashless payment and online wallet systems.
Skills : Android, Ruby on Rails, mysql, mongoDB

Associate at Morgan Stanley Advantage Services (Mumbai)   Aug 2010 - Sept 2012

Worked on updates and maintenance of Third Party Derivatives trading platform, and rolled it out to new markets by making the code region aware, modular and pluggable. Developed an app that could visualize data in large xml files, validate them against their schema files and identify cross linking between two xml files.
Skills : Java EE, Spring, C#, Hibernate, Sybase

Awards and Achievements

Pin-Bhabha Pass trek   July 2016

Successfully completed 7 day trek organised by the Adventure Club at IITK. Height of the pass was 16000ft.
My experiences : https://ankitku.github.io/posts/2016-08-02-BhabhaPassTrek.html

1st Prize in Hacknight at Droidcon India   Nov 2013

Created a geospatial messaging app for android, compatible with the Sony SmartWatch at the annual android conference held in Bangalore India.
App demo here: http://www.youtube.com/watch?v=3qtuORgVMrQ

3rd Prize in Tnooz THack Bangalore   Nov 2013

Sangharsh (my manager at Olacabs) and I built a personalized destination recommendation platform called TravelSpire, which works by retrieving data from Facebook friends.
Additional details at: https://www.tnooz.com/article/thack-hackathon-bangalore-results

3rd prize in AnaDigix   Jan 2009

Won the circuit design competition held in Sparx, the annual technical festival of Indian Institute of Technology (Indian School of Mines), Dhanbad.

Won scholarship by standing 2nd in the All India Erose Scholarship Exam held in 2005.

Stood 3rd in Regional Mathematics Olympiad-2004 organised by Chhotanagpur Mathememathical Society.

State-level winner of Amul-cheese boy and butter girl contest organised by the popular T.V. show Surabhi in 2000.

Skills

C++, Java, Android, Ruby, Haskell, Agda, Coq, Tex, Git