

Utkarsh Upadhyay

Software Developer at Better AG

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Work & Education

Apr '12 – now	Software Developer at Better AG, working on web-client development and data mining
Aug '10 – Feb '11	Internship at CCIL-NEC, Japan on <i>Information diffusion on Twitter</i>
Sept '09 – Feb '12	MS in Computer Science at EPFL, Switzerland, GPA: 5.7/6
Aug '05 – May '09	B.Tech. in Electrical Engg. from Indian Institute of Technology, Kanpur; CPI: 9.5/10
Mar '04 – Mar '05	Class XII (ISC) from St. Dominic Savio College with 96.25% marks
Mar '02 – Mar '03	Class X (ICSC) from St. Dominic Savio College with 92.4% marks

Scholastic achievements

2012	Awarded <i>Prix ECLA Informatique</i> for highest GPA in Computer Science MS at EPFL.
2009-10	Awarded the Academic Excellence scholarship for studying at EPFL
2009	Silver medal at the programming competition ACM-SWERC '09
2005-09	Recipient of the Aditya Birla Scholarship (Given to 10 students all over India)
2005-06	Recipient of the Academic Excellence Award at IITK
2005	Secured 108 th rank in Joint Entrance Examination for IITs. (Percentile: 99.97%)

Technical skills

Languages	Typescript, Javascript, Python, R, C++, Java, Haskell
Other tools	Angular.js, D3.js, nginx, EC2, Meteor, L ^A T _E X

Selected Projects & Work experience

Aug'12– now	Web-client development and data visualisation , at Better AG Third employee at the e-learning startup. Assumed various roles during the growth period. Currently developing a large customer facing single page client written in Typescript using Angular for administration and exposing analytics through visualisations made with D3.
Aug'10– Feb '11	Investigating information diffusion in social networks , under Dr. Satoko Itaya Worked as an intern at CCIL-NEC in Nara, Japan on metrics for evaluation of participants in group discussions on Twitter. See publications.
May'10–Jul'10	Devising a top-down strategy for a swarm of robots , under Prof. Alcherio Martinoli Designed and optimized a top-down strategy to solve a variant of search and rescue problem which had been solved using bottom-up approach in order to compare the two approaches. Concluded that having a centralized strategy does not help in recourse constrained settings. Details: See publications.
Nov'08–Feb'09	Real time algorithmic trading application for IB Olympiad Worked on an existing application Ptolemy , and added real time trading strategies to it to compete in a worldwide Collegiate Algorithmic trading Olympiad organized by Interactive Brokers. Details: See publications.
May'09–Sep'09	Using CUDA to solve MinMax problems , under Prof. K. Deb and Prof. J. Dutta Used the <i>nVidia</i> 's CUDA technology to solve a common convex optimization problem on a very large scale, using gradient decent, with a speedup of over 10x over the most sophisticated methods. Details: See publications

Selected Projects

- Jan'09–Apr'08 **Analysis of Online Ads**, under Prof. Harish Karnick
(As a course project, group of three) Using various machine learning techniques (neural networks, Support Vector Machines and others), analyzed On-line Advertisement data provided by [Komli](#) to predict the click-through-rates of new advertisements. Details here: <http://utkarshu.in/MLProject.pdf>
- Aug'08–Nov'08 **BitTorrent file transfer client**, under Prof. Harish Karnick
(As a course project, Team of three) Made a BitTorrent based file transfer client. Multiple chunks of files were fetched from different distributed systems while avoiding congestion and contention. Details here: <http://utkarshu.in/NetworksProject.pdf>
- May'08–July '08 **Roboclone**, under Nikolaj Bjørner
Continued work during an **internship at Microsoft Research, Redmond** on a file copy program 'RoboClone', a replacement for RoboCopy found on Windows machine. It featured a resource adaptive threadpool and integrated Remote Differential Compression, using .NET Remoting for RPCs. Details here: <http://research.microsoft.com/en-us/people/nbjorner/rap.pdf>

Academic Publications

- G. Mermoud, M. Mastrangeli, **U. Upadhyay** and A. Martinoli. *Real-Time Automated Modeling and Control of Self-Assembling Systems*. 2012 IEEE International Conference on Robotics and Automation, St. Paul, Minnesota, USA, May 14-18, 2012.
- **U. Upadhyay**, N. Yoshinaga, S. Itaya, R. Tanaka, T. Konishi, S. Doi, K. Yamada and P. Davis. *Evaluation of Participants in Group-discussions on Twitter*. To be presented in 8th Applications of Social Network Analysis, Sept. '11. To appear in *Procedia - Social and Behavioral Sciences* (Elsevier).
- G. Mermoud, **U. Upadhyay**, W. C. Evans and A. Martinoli. *Top-Down vs Bottom-Up Model-Based Methodologies for Distributed Control: A Comparative Experimental Study*. Proceedings of the 12th International Symposium on Experimental Robotics (ISER), Dec. - 2010.
- R. Arora, **U. Upadhyay**, R. Tulshyan, K. Deb, J. Dutta. *A Parallel Randomized Algorithm for Solving Large Convex Minimax Problem*. 8th International Conference on Simulated Evolution and Learning (SEAL), Dec. - 2010.
- R. Arora, **U. Upadhyay**. *Can ETF Arbitrage be Extended to Sector Trading?* 1st IIMA Conference on Advanced Data Analysis, Business Analytics & Intelligence, Indian Institute of Management, Ahmedabad, June - 2009.

Interests & activities

- A mentor at the EE (Electrical Engineer's) Summer-camp (2009). Mentored the group which won the best Student project award.
- An active Counseling Service member, helping academically weak students as a Link student (2006-08), newcomers to adapt to the new milieu as a Student Guide (2007-06), and as a Senior Student Guide (2007-08).
- Various position of responsibilities held:
 - Coordinator of SciMaTeX, the pure science events, and TesseractT, the online puzzle solving competition in Techkriti (technical festival) '08.
 - Secretary for Electronics club, English Literary Society events in Antragni (cultural festival) '07.
 - A problem setter for International Online Programming Competition, conducted in Techkriti '08.
- Various prizes in puzzle solving and programming competitions:
 - Silver medal at Swiss national *HC²* '10 programming competition at EPFL.
 - Silver medal at ACM-SWERC '09 programming competition at Madrid, Spain.
 - 2nd place twice in Chaos programming contest (Techkriti '06 and '07).
 - 2nd place in 99 word story writing competition in Alfaaz '08, the literary festival.
 - 1st place in Electronic Circuit Design Competition, Techkriti '06.