

Abhijeet Bhorkar

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Objective To obtain an intern-ship in Communication Networks, which utilizes and enhances my skills, knowledge and experience.

Research Interests Systems, Resource allocation, routing, scheduling, decision and control (stochastic optimization, dynamic programming, reinforcement learning, stochastic approximation), protocol design, analysis and simulation, MIMO, statistical signal processing.

Education

1. University of California, San Diego (2006 - 2011(expected)) (CPI 3.86/4) PhD student (Electrical and Computer Engineering, Communication systems)
2. Indian Institute of Technology Bombay, Mumbai, India (2001-2006)
M-tech: Tele-comm. and signal processing, B-Tech: Electrical Eng.(CPI 9.61/10)

Publications

- A. Bhorkar, T. Javidi, No regret routing in wireless Ad-hoc networks, Asilomar 10
- A. Bhorkar, T. Javidi, A. Snoeren, "On practical implementation for congestion diversity in wireless Ad-hoc networks", Allerton 10
- A. Bhorkar, T. Javidi, A. Snoeren, "Achieving congestion diversity in wireless Ad-hoc networks", submitted to Infocom 10
- A. Bhorkar, A. Nilson, P. Johanson, "Common Opportunistic Routing and Forwarding", VTC 10
- A. Bhorkar, M. Naghshvar, T. Javidi and B. Rao "An Adaptive Opportunistic Routing Scheme for Wireless Ad-hoc Networks," submitted to IEEE Trans. on Networking.
- A. Bhorkar, M. Naghshvar, T. Javidi and B. Rao AdaptOR An Adaptive Opportunistic Routing Scheme for Wireless Ad-hoc Networks, ISIT 09
- A. Bhorkar, M. Naghshvar, T. Javidi and B. Rao Exploration vs Exploitation in wireless Ad-hoc networks, CDC 09
- Abhijeet Bhorkar, Emanuele Coviello, Francesco Rossetto, Bhaskar D. Rao, Michele Zorzi: A Robust Approach to Carrier Sense for MIMO Ad Hoc Networks. ICC 2009
- Abhijeet Bhorkar, B. S. Manoj, Bhaskar D. Rao, Ramesh R. Rao: Antenna Selection Diversity Based MAC Protocol for MIMO Ad Hoc Wireless Networks. GLOBECOM 2008: 671-676
- Abhijeet Bhorkar , Abhay Karandikar , V.S. Borkar, "Opportunistic Power Optimal Scheduling" IEEE GLOBECOM 06
- Hemant Kumar Rath, Abhijeet Bhorkar, Vishal Sharma, "An Opportunistic DRR (O-DRR) Uplink Scheduling Scheme for IEEE 802.16-based Broadband Wireless Networks", IETE, International Conference on Next Generation Networks (ICNGN), February 9, 2006, Mumbai.
- Hemant Kumar Rath, Abhijeet Bhorkar, Vishal Sharma, "An Opportunistic Uplink Scheduling Scheme to Achieve Bandwidth Fairness and Delay for Multiclass Traffic in Wi-Max (IEEE 802.16) Broadband Wireless Networks", IEEE GLOBECOM, 2006
- Nitin Salodkar, Abhijeet Bhorkar, Abhay Karandikar, Vivek S. Borkar: An on-line learning algorithm for energy efficient delay constrained scheduling over a fading channel. IEEE Journal on Selected Areas in Communications 26(4): 732-742 (2008)

Honors and Awards

1. National Talent Search Examination scholarship(NTSE) 1998.
2. Institute Academic award,IIT Bombay 2003,2004.

**Research
Summary**

1. **PhD**
 - **CDP** In this work, we develop congestion aware routing protocol and implement it on a testbed
 - **AdaptOR** In this work, we develop adaptive opportunistic routing routing protocol.
 - **NRR** In this work, we develop fast converging opportunistic routing protocol.
 - **MIMO MAC** protocols for MIMO Ad-hoc networks In this work, we design MAC protocols for MIMO Ad-hoc networks.
2. **Masters Thesis**
 - Qos and Channel aware, energy efficient scheduling algorithms Broadband system. Used **POMDP and reinforcement learning** methods and prove theoretical convergence for our problem.
3. **Electronic Design Project**
 - 100Mhz to 1 Ghz Network Analyzer. It was sponsored by an Indian company, to produce a prototype for indigenous network analyzer.

**Professional
Experience**

Summer Internship

Place: Intel Corp, Santa Clara

Duration July 2007 - Sept 2007

Worked on optimizing scheduling for WiMax

Place:ITTIAM Systems (P)Ltd, Bangalore,India.

Duration:May, 2004 -July, 2004

Worked on live project of “MPEG4(H.263) encoding on C64x (DM642)” The project involved optimal implementation(using pipelining) of motion estimation in assembly.

Computer Skills

Completed MCA equivalent course from DOEACC, India

- Statistical Packages: R, Matlab
- Languages: C++, Perl, Python, Java, Unix shell scripts,Visual C++.
- Simulation softwares:Qualnet, NS-2.

Other Info

Website: <http://dsp.ucsd.edu/~bhorkar>