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### Education

- Currently pursuing a PhD in Electrical Engineering at UC Berkeley.
- Masters of Science in Electrical Engineering, December 2007, UC Berkeley, Berkeley, CA, USA. GPA: 3.906/4.000.
- Bachelor of Technology in Electrical Engineering, August 2005, IIT Bombay, Mumbai, India. GPA: 9.75/10.00.

### Research Interests

Next-generation wired and wireless network architecture, Economic and game theoretic aspects of QoS and its impact on architecture, Economic aspects of network and information security, Mathematical tools for network analysis and design.

### Current Projects

- **Economics of FemtoCells** with *Dr. Shyam Parekh and Prof. Jean Walrand.* – Impact of pricing and adoption of femtocells on the choice of interference management for next-generation cellular networks.
- **Economics of Network Security** with *Dr. Galina Schwartz, Dr. Mark Felegyhazi and Prof. Jean Walrand.* – Techno-economic solutions for underinvestment arising due to free-riding problems in network security. Research into the liability and accountability structure of current Internet and possible improvements.
- **Mathematical Tools for Network Analysis and Design** with *Assane Gueye and Prof Jean Walrand.* – Creating mathematical tools for improved network analysis and future network design.
- **Techno-economic Solutions for QoS and the Network Neutrality Impasse** with *Dr. Galina Schwartz and Prof Jean Walrand.* – Technical implementations improving incentives for ISPs to invest in network upgrade based on economic models of investment.

### Technical Skills

Proficient in **MATLAB, C** with project implementation experiences both in-course and on-job. Some experience with **OPNET** (network simulations) and **Perl**.

## Work Experience

- Intern with **Alcatel-Lucent** – Research into economic aspects of femtocell adoption for WiMAX networks.
- Intern at **Cisco** – Involved in optimizing routing table convergence for BGP on the 7600 series router, resulting in 30% improvement. [Technology: C, Perl]
- Consultant at **Innoviti**, a wireless startup in Bangalore – Worked on the concept of an USB FM Radio, resulting in a **patent application**. [Technology: C]
- Intern at **Infineon** India – Worked on their IP Phone Project as a project trainee for a period of two months. [Technology: C, C++]

## Publications

- **Competitive Cyber-Insurance and Internet Security** Nikhil Shetty, Galina Schwartz, Mark Felegyhazi and Jean Walrand. To Appear in Workshop on the Economics of Information Security (WEIS 2009), 24-25 June 2009. London, England.
- **Identifying Spectrum Usage by Unknown Systems using Experiments in Machine Learning** Nikhil Shetty, Sofie Pollin and Przemysław Pawełczak. *Wireless Communications and Networking Conference (IEEE WCNC) 2009*. April 5-8, 2009. Budapest, Hungary.
- **Impact of QoS on Internet User Welfare** Galina Schwartz, Nikhil Shetty and Jean Walrand. *4th International Workshop On Internet And Network Economics (WINE 2008)*. December 17-20, 2008. Shanghai, China.
- **Network Neutrality: Avoiding the Extremes** Galina Schwartz, Nikhil Shetty and Jean Walrand. Invited Paper at *Forty-sixth Annual Allerton Conference 2008*. September 23-26, 2008. Champaign-Urbana, IL, USA.
- **Modeling the Adoption of new Network Architectures** Dilip Joseph, Nikhil Shetty, John Chuang and Ion Stoica. *3<sup>rd</sup> International Conference on emerging Networking EXperiments and Technologies (CoNEXT'07)*, December 10-13, 2007, New York, NY, U.S.A.
- **A Novel Approach to Bottleneck Analysis in Networks** Nikhil Shetty, Assane Gueye and Jean Walrand. *IEEE NOMS 2008*. April 7-11, 2008. Salvador da Bahia, Bahia, Brazil.

## Submitted for Publication

- **Economics of Femtocells** Nikhil Shetty, Shyam Parekh and Jean Walrand. Submitted to IEEE Globecom.
- **Internet QoS and Regulations** Nikhil Shetty, Galina Schwartz and Jean Walrand. Submitted to the IEEE/ACM Transactions on Networking.
- **Net Neutrality and ISPs Property Rights: Why Internet Lacks Differentiated Services?** Galina Schwartz, Nikhil Shetty and Jean Walrand. Submitted to the RAND Journal on Economics.

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### **Academic Honors and Achievements**

- **Vodafone Fellow:** Recipient of the prestigious Vodafone Fellowship at UC Berkeley from 2005-2007
- **Department Rank 1: Topped** the BTech Electrical Engineering batch of IIT Bombay with a CPI of 9.75/10.00 resulting in the presentation of the prestigious Institute Silver Medal.
- **AIR 73:** Stood **73rd** in the IIT Joint Entrance Examination 2001 in which more than 150,000 students appeared from all over India.
- **INPhO Gold Medal:** Was placed among the **top 30** students at the Indian National Physics Olympiad.
- **INChO:** Was placed among the **top 100** at the Indian Chemistry Olympiad.
- **NTS Scholar:** Was awarded National Talent Search scholarship in India that is given to the **top 750** students for **potential** in their respective areas.