

JOSEPH F SOMA REDDY

Email: soma@cw.cw.ucsd.edu

Phone: 858-822-0038(Off)

Objective

Seeking a challenging and responsible position involving the design of protocols and architecture for next generation wireless networks.

Skills

- Strong knowledge of the fundamentals of Wireless Communications(Cellular networks, CDMA, 3G network architecture and protocols, 802.11b, Bluetooth)
- Strong knowledge of the fundamentals of networking(TCP/IP, Mobile IP)
- Knowledgeable about the latest research in the fields of wireless network design and Internet access to mobile devices(IP based cellular networks, TCP/IP over wireless networks)
- Strong Mathematical and Analytical Skills
- Familiar with OPNET simulation tool, Matlab and C programming language

Education

Ph. D. in Electrical and Computer Engg.(Communication Theory and Systems)

University of California, San Diego, 1997-July 2002(expected)

Thesis Advisor: Prof. Anthony Acampora

Area of Research: IP over wireless networks, Mobility Management protocols

Next generation cellular network architecture, Wireless Internet access

M. S. in Electrical and Computer Engg.(Communication Theory and Systems)

University of California, San Diego, 1999

Faculty Advisor: Prof. Anthony Acampora

GPA: 3.85/4.0

B. Tech. in Electrical Engg.

Indian Institute of Technology, Madras, India, 1993-97

GPA: 8.93/10.0

Experience

- Research Assistant, Center for Wireless Communications, UCSD, 1997-present
Working on protocols and architecture for next generation IP based wireless networks.
- Consulted for PacketAir Networks, San Diego, Oct.2001-March2002.
Worked on security and mobility protocols for 802.11b wireless networks.

- Worked at Widcomm Inc., San Diego in Summer 2000
Designed protocols to ensure seamless operation of Internet protocols over bluetooth links. Involved in design and development of products to enable Internet access to mobile, bluetooth enabled devices.
- Internship at Hughes Research Labs, Malibu, CA in Summer 1998
Designed and simulated(along with my supervisor) a Medium Access Control(MAC) protocol for a wireless network with mobile users and mobile base stations. The protocol included provision for reservation of bandwidth for real time continuous bit rate(CBR) and variable bit rate(VBR) connections. An admission control algorithm was used to ensure QoS. A datagram service without any QoS support was also available. Handoff support was provided and the QoS of real time connections was ensured during handoff by reserving some bandwidth at each base station for potential incoming handoff connections.
- Designed and built(with two other classmates) a cordless PABX system in the senior year of B.Tech. and exhibited it at the National Conference on Communications, Madras, India, 1997.
- Designed and built(with two other classmates) a layer2 switch for a proprietary network for our college campus. This product is being commercially sold in India.

Publications

- Joseph Soma-Reddy and Anthony Acampora, "Micromobility Strategies for IP based Cellular Networks", IWDC 2001, Taormina, Italy, September 2001
- Joseph Soma-Reddy and Anthony Acampora, "Fast handoffs in IP based Cellular Networks", presented at *IP based Cellular Networks conference*, Paris, May 2001.
- Anthony Acampora and Joseph Soma-Reddy, "Lossless Handoffs in Microcellular networks for Wireless Internet Access", *Personal, Indoor, Mobile Radio Communications(PIMRC) conference*, London, Sept. 2000.
- Anthony Acampora, Joseph Soma-Reddy, Haipeng Jin and Ralph Gholmieh, "Role of Software Radio in Wireless Internet Access", *12th Tyrrhenian International Workshop on Digital Communications*, Elba, Italy, Sept. 2000.

Patents

- Patent application titled "Mobility Management in Wireless IP Networks"

Awards

- Awarded the Prof. Achimm Bopp endowment award for the best hardware project in the EE department, Indian Institute of Technology, Madras, India, 1997.
- Recipient of the National Talent Scholarship, India, 1991-97.
- Ranked 5th in my state at the Indian National Mathematical Olympiad, 1991.

References available upon request