

# Vinay Majjigi

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## EDUCATION

### PhD in Electrical Engineering 2011

STANFORD UNIVERSITY, CA.

Dissertation Title: *Drift Fields: A Method for Resource Allocation in Wireless Networks*

Advisor: John Cioffi

### MS in Electrical Engineering 2008

STANFORD UNIVERSITY, CA.

### BS in Electrical Engineering 2004

CASE WESTERN RESERVE UNIVERSITY, OH.

**Coursework:** Statistical Signal Processing, Convex Optimization, Information Theory, Digital Communications, MIMO Communications, Wireless Communications, Wireless PCS, Computer Networks, Investment Science

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## WORK EXPERIENCE

- Apple Inc, iOS Systems Engineer, Cupertino, CA** Mar 11- Present  
Systems Engineering Group on the iOS SW Team
- Stanford University, Research Assistant, Stanford, CA** Sept 08-Mar 11  
Published 9 papers on wireless communication related to 4G OFDMA Systems with a Best Paper Award  
Researched related topics for my thesis including resource allocation, scheduling, and cross-layer optimization
- Bump Technologies, Consultant, Mountain View, CA** Nov 09-June 10  
Developed signaling and waveform algorithms for *Bump* iPhone application  
Conducted various research and development studies for future applications
- Qualcomm, Communication Engineer Interim, San Diego, CA** June-Sept 09  
Developed detection algorithms for the 4G wireless network LTE  
Reviewed various wireless standards including UMTS and LTE
- Northrop Grumman, System and Communication Engineer, Fairfax, VA** Jan-Aug 05 & June-Aug 06 & Sept 07  
Developed carrier tracking algorithms  
Tested and integrated software systems developed in C++ and Python
- Boeing, Junior Engineer, Herndon, VA** Jan-Jul 04  
Developed software demodulator for spread spectrum signal  
Performed trade studies and assisted in proposal preparation for embedded electronics and optical systems
- Federal Government, Junior Engineer** June-Dec 02  
Supported mechanical and electrical issues for a robotic system  
Wrote technical manual and trained end users on a robotic system
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## COMPUTER SKILLS

MATLAB, C, Python, Unix Systems, LaTeX, MS Office Applications

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## HONORS AND DISTINCTION

**Best Paper Award at IEEE Globecom, 2010** – top 0.5% of accepted papers

**National Defense Science and Engineering Graduate Fellowship, 2005** - Full-tuition and Stipend

**Case Western Reserve University's Trustee Scholarship, 2000-2004** - Full-tuition

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## **PUBLICATIONS**

### **Multi-User Buffer Control with Drift Fields [Best Paper Award]**

Vinay Majjigi, Daniel O'Neill, Carolin Huppert, John Cioffi. *Globecom*, December 2010. Miami, FL.

### **Stochastic Optimization for Variable Rate Applications with Time-Varying Statistics**

Vinay Majjigi, Daniel O'Neill, John Cioffi. *ICC*, May 2010. Capetown, South Africa.

### **Buffer State Information: Two-Level Water-Filling for Fixed Rate Applications**

Vinay Majjigi, Daniel O'Neill, John Cioffi. *Globecom*, December 2009. Honolulu, HI.

### **User Profiling: A Method to Guarantee QoS in Limited Feedback OFDMA Systems**

Vinay Majjigi, Rajiv Agarwal, John Cioffi. *ICC*, June 2009. Dresden, Germany.

### **Mobility Dependent Feedback Scheme for point-to-point MIMO Systems**

Gonzalo Vazquez-Vilar, Vinay Majjigi, Aydin Sezgin and Arogyaswami Paulraj. *Asilomar*, Oct 2008. Pacific Grove, CA.

### **Persistent Resource Allocation in OFDMA Networks for Real-Time and Non-Real Time Traffic**

Vinay Majjigi, Rajiv Agarwal, Rath Vannithamby, John Cioffi. *Asilomar*, Nov 2007. Pacific Grove, CA.

### **Low Complexity Resource Allocation with Opportunistic Feedback over Downlink OFDMA Networks**

Rajiv Agarwal, Vinay Majjigi, Zhu Han, Rath Vannithamby, John Cioffi. *IEEE JSAC Special Issue on Limited Feedback*, 2008.

### **Efficient Scheduling for Heterogeneous Services in OFDMA Downlink**

Rajiv Agarwal, Vinay Majjigi, Rath Vannithamby, John Cioffi. *Globecom*, December 2007. Washington D.C

### **Efficient Scheduling for Heterogeneous Traffic in Downlink**

Rajiv Agarwal, Vinay Majjigi, Rath Vannithamby, John Cioffi. *VTC*, Fall 2007. Baltimore, MD.