

TZE-PING LOW

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Relevant Experience

- Close to 9 years experience in wireless communications industry, with technical leadership experience.
- Ph.D. in Electrical Engineering (GPA 4.0) with research focus on signal processing for wireless communications.
- Extensive experience in deploying, testing, and evaluating large-scale wireless communications systems.
- Worked closely with business development and sales teams, as well as direct customer interactions.
- Ability to conduct applied research, as well as apply existing knowledge and experience to new areas.
- Strong programming skills, especially MATLAB and C.
- Familiar with 3GPP and 3GPP2 standards, especially Radio Access Network (RAN) protocol specifications.
- Willing to relocate.

Education

- 2008-2011 **Ph.D. in Electrical Engineering**, University of Southern California (USC), 2011
Dissertation Title: Physical Layer Multicasting with Opportunistic Multicast Scheduling
Minor in Mathematics
Overall GPA: 4.0/4.0
- 2000-2003 **M.Sc. in Electrical Engineering**, National University of Singapore, 2003
Specialized in Wireless Communications
Thesis Title: Performance Analysis of Multi-Element Array Systems under Different Processing Techniques and Fading Correlations
- 1995-1999 **B.Eng. in Electrical Engineering**, National University of Singapore, 1995
Specialized in Communications,
Minor in Law
Graduated with Honors

Professional Experience

- 2004-2007 **Ericsson Telecommunications**
Senior Radio Network Specialist
Lead teams of Engineers to build, troubleshoot and maintain large-scale cellular communication projects. Determine technical requirements during RFP, propose, analyze, and select solutions to implementation team. Dimensioning and design of system solutions, including network architecture, air interface and access transport network dimensioning. Successfully implemented one of Asia's most advanced and reliable 3G network in SingTel WCDMA and HSPA project. Helped company break into new market by delivering quality presentations and workshops to customer, and defending solutions and technology choices to industry experts.
- 2000-2004 **Lucent Technologies** (now Alcatel-Lucent)
RF Engineer
Perform radio network planning, link budget analysis for CDMA IS-95, cdma2000 and EV-DO cellular networks in Asia-Pacific markets. Carry out pre-implementation performance simulations and analysis. Work with implementation teams in site selection and equipment configurations. Perform post-sales RF optimization activities, including drive tests, morphology (clutter) characterization, site surveys and network performance analysis. Implemented India Reliance cdma2000 network in six months.
- 1999-2000 **DSO National Laboratories**
R&D Project Engineer (Member of Technical Staff)
Develop signal-processing algorithms for advanced radar development programs currently deployed by Singapore military, such as UWB Synthetic Aperture Radar and ground based Bi-Static Radar. Responsible for system engineering, design and build radar systems prototype, including both hardware and software. Study signal processing algorithms for interference mitigation, spectrum estimation and array processing. Perform field trials for test and evaluation.

Selected Research Experience

- 2008-2011 **Physical Layer Multicasting**
Proposed novel cross PHY-MAC layer multicast scheduling schemes to increase efficiency in multicast traffic, such as internet video broadcast. Quickly understood advanced statistical concepts such as extreme value theory and apply it to wireless multicast scheduling problems. Apply practical experience gained in the wireless industry to adapt theoretical research to more practical systems.
- 2009-2010 **Speaker and Language Identification in Environmental background sound with Microphone Array**
Apply machine learning and pattern recognition techniques to train, model, classify and test corpus and live data for natural language processing. Perform audio signal processing using Matlab and C to beamform and denoise collected speech and environment sound to accurately identify speaker, language and environmental sound.
- 2008 **Performance evaluation of counter-piracy techniques in P2P networks**
Apply advanced network packet and queuing theory to design accurate mathematical model that predicts the effectiveness of counter-piracy techniques in bit-torrent and other file-sharing systems, in order to provide strategic recommendations for anti-piracy company in the media industry.

Teaching Experience

- 2009 Teaching Assistant
USC EE562a - Random Processes in Engineering

Computer Skills

- Matlab
- C/C++
- Microsoft Visual Basic
- Adobe Flash Actionscript 3 (using Flash (Flex) Builder/ Flash Professional),
- PHP/MySQL
- Apple iOS, Android programming

Award

- 2010 Qualcomm Innovation Fellowship Finalist
- 2005 Ericsson Marcus-Wallenburg Scholarship for Scientific Research and Education

Selected Publications

Tze-Ping Low; Hong, Y.-W.P.; Kuo, C.-C.J., "Opportunistic Multicast Scheduling with Multiple Multicast Groups," *submitted to IEEE Global Telecommunications Conference, GLOBECOM 2011*

Tze-Ping Low; Po-Chun Fang; Hong, Y.-W.P.; Kuo, C.-C.J., "Opportunistic Multicast Scheduling in Multi-Antenna Downlink Systems," *submitted to IEEE Transactions on Wireless Comms.*

Tze-Ping Low; Po-Chun Fang; Hong, Y.-W.P.; Kuo, C.-C.J., "Multi-Antenna Multicasting with Opportunistic Multicast Scheduling and Space-Time Transmission," IEEE Global Telecommunications Conference, GLOBECOM 2010, Miami, FL, December 2010.

Tze-Ping Low; Man-On Pun; Hong, Y.-W.P.; Kuo, C.-C.J., "Optimized opportunistic multicast scheduling (OMS) over wireless cellular networks," IEEE Transactions on Wireless Communications, vol.9, no.2, pp.791-801, February 2010.

Tze-Ping Low; Man-On Pun; Hong, Y.-W.P.; Jay Kuo, C.-C., "Optimized opportunistic multicast scheduling (OMS) over heterogeneous cellular networks," IEEE International Conference on Acoustics, Speech and Signal Processing, ICASSP 2009, pp.2545-2548, 19-24 April 2009.

Tze-Ping Low; Man-On Pun; Kuo, C.-C.J., "Optimized Opportunistic Multicast Scheduling over Cellular Networks," IEEE Global Telecommunications Conference, GLOBECOM 2008, pp.1-5, Nov. 30 2008-Dec. 4 2008.

Low Tze-Ping; Chin, F.; Kannan, B., "Performance analysis of multi-element antenna array systems under different processing techniques and fading correlation," The 8th International Conference on Communication Systems, ICCS 2002, vol.1, pp. 421-425, 25-28 Nov. 2002.