

Dr. Han Lin	
CONTACT INFORMATION:	E-MAIL: hanlin@cantab.net
PERSONAL INFORMATION:	Date of birth: 8 th March 1977 Sex: Male Marital Status: Single Interests: Swimming, karaoke, guitar, wine tasting, building plastic models.
EDUCATION:	University of Cambridge, School of Engineering, Cambridge, UK 10/04~ 8/08 PhD in Information Engineering, Bayesian statistical signal processing laboratory Topic: Audio Restoration Methods Applied to Multi-Channel Wireless Audio Applications Stanford University, School of Engineering, Stanford CA, USA 9/99 ~ 9/00 Master of Science in Electrical Engineering. Major: Signal processing (DSP) Columbia University, School of Engineering, New York, New York, USA. 9/95 ~ 5/99 Bachelor of Science in Electrical Engineering, graduated with honor and distinction.
FIRST AUTHOR PUBLICATIONS:	Han Lin and Simon Godsill, <i>Bayesian Background Noise Suppression With a Perceptual Cost Function</i> , IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Las Vegas, USA, April 2008 Han Lin and Simon Godsill, <i>Real-Time Bayesian GSM Buzz Removal</i> , Proc. of the 9th Int. Conference on Digital Audio Effects (DAFx'06), Montreal, Canada, September 2006 Han Lin and Simon Godsill, <i>The Multi-channel AR Model For Real-time Audio Restoration</i> , IEEE Workshop on Audio and Acoustics (WASPAA), Mohonk, USA, October 2005
RESEARCH EXPERIENCE:	Statistical Signal Processing Laboratory, University of Cambridge 10/04~ 8/08 <ul style="list-style-type: none"> • Designed a noise suppression algorithm with perceptual cost functions and Markov Chain Monte Carlo (MCMC) methods. It is fully implemented in Matlab and is capable of improving perceived audio quality and removing stochastic background noise by minimizing perceptual Risk functions through MCMC simulation. • Designed and invented a real time audio restoration algorithm and the Multi-channel Autoregressive (AR) model. The algorithm is fully implemented in Matlab and C and is capable of improve audio quality by predicting packet losses associated with 3G/CDMA/VoIP/WIFI/DAB data in real-time. UK, USA, Taiwan, and China patent. The technology won first place in 2006 Cambridge business plan competition. • Designed and invented a real time mobile phone interference restoration algorithm based on the Autoregressive (AR) model. The algorithm is fully implemented in Matlab and C and is capable of restoring audio files interfered by EM pulses generated by various mobile phone standards (GSM, CDMA, TDMA) in real time. UK, Taiwan, and China patent. Research in Music and Acoustics, (CCRMA) Stanford University 1/00 ~ 6/00 <ul style="list-style-type: none"> • Designed "pitch detector" - a music transcription algorithm in Matlab and C that can read in wave file, estimate the music score and generate synthesized computer music. • Designed "Karaoke Machine" - a source separation/ prediction algorithm that can adaptively filter out vocal part from the music part for audio signals. Design Project with Toyota Corporation, Stanford University 1/00 ~ 6/00 <ul style="list-style-type: none"> • Designed and co-invented the next generation human-machine interface "Virtual Buttons" which consists of Haptic devices, virtual reality (VR), voice/letter recognition, image processing, and IR technology for in-car multimedia GPS System. (Awarded US, Japan Patent and Lincoln Award. Broadcasted on Japanese national television NHK.)
WORK EXPERIENCE:	MARGO Technologies Limited, Cambridge, UK 06/06 ~ now Founder, Inventor and Chief Technology officer. Responsible for founding the company, developing marketing strategies, creating and presenting business plan, and conducting technical research for the company. Invented company's core technology and helped to negotiate investments/ term sheets. Company won business competition as well as 75K research grant from East England Development Agency.

WORK EXPERIENCE (CONTINUED):	<p>Clearcom Communications (Vitec group, UK), Emeryville, CA, USA 2/02 ~ 8/04</p> <p>Senior Design Engineer/ Product Manager in Wireless Group. Responsible for hardware board level design, wireless and audio analog circuit design, firmware design, as well as releasing final products for manufacturing.</p> <p>Q700 (Programmable, Analog Wireless Intercom System) 2/02 ~ 2/03</p> <ul style="list-style-type: none"> • Transistor level Analog Wireless Circuit design and firmware design. Implemented wireless intercom systems to support EURO frequency (835~865MHz). Design includes resonator based Colpitts Oscillators, FM modulation, Butterworth filters, high gain amplifiers, and impedance matching. Helped to achieve EURO CE compliance. The product won BET TV entertainment awards at Las Vegas, USA. <p>Cellcom (Cellular concept 1.8~1.9GHz wireless intercom system) 2/03~ 8/04</p> <ul style="list-style-type: none"> • System Board Level Design and Product Management. Collaborate with UK engineering team to design and release a 1.8~1.9GHz DECT cellular based full duplex, radio quality (G.722) digital wireless system. Product won PLASA 2003 best audio product in PLASA, UK. <p>WHD-1 (Portable 1GHz band digital Wireless headset) 2/03 ~ 8/04</p> <ul style="list-style-type: none"> • Hardware Board Level Design. Designed the CD quality digital wireless headset prototype with SPDIF (fiber-optic) and USB interface using Manchester encoded TDM wireless audio link. <p>Cadence Design Systems/ Tality corporation, San Jose, CA , USA 6/00 ~ 2/02</p> <p>Senior Design Engineer in Wireless Information Appliance Design Services Group. Responsible for hardware board level design, software embedded system design, and generating requirements and architecture documents.</p> <p>IPLC (Portable Smart Card Multi Audio Codec MP3 Player) 3/01 ~ 9/01</p> <ul style="list-style-type: none"> • Hardware board level design. Designed an audio player which integrated Cirrus Logic system on chip decoder EP7312 (AMR7) and EP9312 (ARM9) processors with USB host, slave, smart flash supporting SDMI, graphical Equalizer with touch screen TFT LCD display. <p>Multimedia Home Platform (Advance Multimedia Set-up Box) 6/01 ~ 2/02</p> <ul style="list-style-type: none"> • Software embedded system design. Implemented software video processing functions for the DVD Digital TV MPEG 2 transport stream in WindRiver Tornado C++ under RTOS VxWorks and LINUX for the ATI SET-UP WONDER. <p>CompuPen (Wireless optical letter recognition Bluetooth Pen) 6/00 ~ 2/01</p> <ul style="list-style-type: none"> • Software and hardware design. Designed a wireless Bluetooth pen with Agilent HDNS2000 PS/2 optical mouse sensor under RTOS μCOS and working with Bluetooth L2CAP layer with Ericsson Bluetooth Evaluation board.
OTHER EXPERIENCE:	<p>Producer of "Sounds of China" 89.9FM radio station, Columbia University 4/96 ~ 4/97</p> <ul style="list-style-type: none"> • Responsible for various Activities such as DJ training, radio skits, and radio dramas. Recorded radio commercials with commercial company Young & Rubicam. Granted with FCC license for radio station control console.
COMPUTER/ INDUSTRY SKILLS:	<p>Matlab, C/C++, Java, Assembly (MIPS, PIC, TI), Mathematica CADENCE composer (SPICE, VHDL, Leapfrog, Virtuoso), ORCAD, PADS, Powerlogic , MPLAB, Agilent VEE PRO, MAYA, 3D studio, HTML, and Adobe PhotoShop.</p>
AWARDS / ACHIEVEMENTS	<p>2006 - Winner of Cambridge University Entrepreneurs Business Creation Competition; Winner of Running the Gauntlet Business Competition from EEDA.</p> <p>2005 - Awarded patents for multi-channel radio restoration algorithm and mobile phone interference restoration algorithm (Cambridge Enterprise).</p> <p>2003 - The only employee in Clearcom company history to win 6 consecutive months of "Best Employee of the Month Award".</p> <p>2000 - Awarded Toyota/Stanford patent for "Virtual Buttons" and the Lincoln design award 2000. It was broadcasted on Japanese national television NHK.</p> <p>1999 - Graduate with honor and distinction, Columbia University.</p> <p>1997 - Elected as the most creative radio station producer of "Sounds of China" 89.9FM.</p>
LANGUAGE SKILLS:	<p>Fluent in English and Mandarin Chinese, advance written/conversational Japanese, basic Spanish</p>