

# Douglas A. Chrissan

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(408) 823-9976

## EMPLOYMENT:

Engineering and Intellectual Property Consultant	2011–present
Maxim Integrated Products, Sunnyvale, CA (MXIM) Engineering Director, Video Processing	2009–2011
Keystream Corporation, Mountain View, CA Vice President, Engineering	2009
Texas Instruments, Sunnyvale, CA (TXN) Program Engineering Manager, DSP Division Systems Architect, DSL	2004–2009 2003–2004
8x8, Inc, Santa Clara, CA (EGHT) VP Engineering, Netergy Microelectronics group Director, Signal Processing Algorithms Manager, Audio Algorithms Senior Software Engineer	2000-2003 1999 1998 1997
Hughes Aircraft Company (now Boeing) Masters Fellow and Member of Technical Staff	1988-1993

## EDUCATION:

Ph.D., Electrical Engineering, Stanford University	1998
M.S.E.E., University of Southern California	1990
B.S.E.E., University of Southern California	1988

## EXPERIENCE SUMMARY:

Twenty years of communications, multimedia and networking experience with expertise in communication systems, embedded software, Internet server and client software, mobile device software, audio/video processing and system-on-chip (SoC) ICs.

Engineering and Intellectual Property Consultant 2011–present

TQ Delta 2016-present  
Expert Witness for TQ Delta (Plaintiff), Civil Actions 1:15-cv-00611-RGA through 1:15-cv-00616-RGA (deposed once for this case).

Expert Witness for TQ Delta (Patent Owner), IPR2016-01006, -01007, -01008, -01009, -01160 and -01466 (deposed once for these cases).

Monster, Inc. 2014  
Expert Consultant for Monster, Inc. (Defendant), Civil Action No. 13 Civ. 8229 (KBF) (S.D.N.Y.) (case settled)

Intellectual Ventures 2013-present  
Expert Witness for IV (Plaintiff), Civil Actions 1:13-cv-00116-LY (deposed twice for this case), 1:13-cv-00118-LY (case settled) and 1:13-cv-00119-LY (case settled).  
Expert Consultant for IV (Plaintiff), Civil Actions 1:12-cv-00193-LPS and 1:13-cv-01668-LPS through 1:13-cv-01672-LPS.

Wiffledan, Inc. (a.k.a. Vhoto, acquired by Hulu) 2013-2015  
Designed and implemented image processing and computer vision algorithms on iOS devices for selecting the most appealing images from a video sequence. These algorithms are used in the *Vhoto* application, available as of 2014 from the Apple App store.

Cavium, Inc. 2011-2012  
Managed customer engineering for WiFi-enabled wireless remote display receivers, including the Samsung AllShareCast wireless remote display dongle.

Maxim Integrated Products, Sunnyvale, CA (MXIM) 2009–2011  
Engineering Director, Video Processing

Managed and developed the MAX64380 High-Definition H.264 Video Compression/Decompression Integrated Circuit from inception to production.

Managed and developed the MAX64180 High-Definition H.264 Video Compression/Decompression Integrated Circuit from inception to production. This product was used in many internet-connected camera designs for security cameras and TV webcams (cameras connected to Smart TVs).

Managed and developed the iZon camera for Stem, Inc. using the MAX64180. This first-generation, WiFi-connected security camera was available as the Stem iZon product in Apple stores as of 2011.

Managed the development of several Skype TV Webcam designs; these designs enable Smart TVs to run Skype natively as a videoconferencing application on the TV. The first of these designs, for Samsung, was the first Skype TV webcam product in the market (2010).

Keystream Corporation, Mountain View, CA  
Vice President, Engineering  
(Company ceased operations in Dec. 2009)

2009

Managed an agile team of Internet software engineers in the development and release of company's SmartAd platform, an ad delivery system to users' web browsers.

Implemented computer vision algorithms for detecting, tracking and classifying objects in videos.

Texas Instruments, Sunnyvale, CA (TXN)  
Program Engineering Manager, DSP Division  
Systems Architect, DSL

2004–2009

2003–2004

Managed the development and release to production of the UR8 Digital Subscriber Line (DSL) ADSL2/VDSL2 residential gateway product, including all hardware and software components. This work included substantial contributions to the architecture and design of TI's TNET7531 and TNET7530 multi-core, DSL transceiver integrated circuits and related software. UR8 was a \$20M+ product development including 100 engineers at multiple worldwide sites, with first silicon released to production and all software delivered on schedule.

Authored the TI White Paper "Uni-DSL™: One DSL for Universal Service" (see publications section below).

Managed the ~\$50M divestiture of TI's digital subscriber line IC products to Infineon, including IT, technology transfer, support, operations and product engineering.

8x8, Inc, Santa Clara, CA (EGHT)  
VP Engineering, Netergy Microelectronics group  
Director, Signal Processing Algorithms  
Manager, Audio Algorithms  
Senior Software Engineer

2000-2003

1999

1998

1997

Directed a team of silicon, software, hardware and applications engineers in the development of Voice-over-IP (VoIP) and Video-telephony software and semiconductor products.

Substantially contributed to the Vision Compression Processor EX (VCP-EX) integrated circuit, the Audacity-T2 Voice-Over Internet Protocol Processor integrated circuit and the Audacity-T2U Voice-Over Internet Protocol Processor integrated circuit. The Audacity-T2 and T2U were in production and used in designs worldwide for more than ten years.

Managed major software releases and hardware product lines, enabling company's OEM customers to develop VoIP products including the Ericsson DRG-22 Ethernet Residential Gateway, the Telsey Ethernet Residential Gateway and the D-Link DPH-100 IP Phone.

Architected the design and managed the development of a DSP core for audio/video processing. This DSP core was licensed by ST Microelectronics and led to a \$27M investment in the company by ST.

Managed company's IP portfolio of ~50 patents and patent applications.

Designed and managed and designed the implementation of the G.7xx ITU speech compression algorithms on four different DSP architectures

#### Hughes Aircraft Company

Masters Fellow and Member of Technical Staff

1988-1993

Designed and developed a digitally synthesized, bandwidth efficient 800 Mb/s modem under a NASA Lewis Research Center contract.

Provided pre-sales technical and design support for commercial satellite programs, including the Aussat (Australia) and Palapa (Indonesia) programs.

Designed communication payload circuits for the Milstar satellite program.

#### PUBLICATIONS:

Douglas Chrissan, "Uni-DSL™: One DSL for Universal Service," Texas Instruments White Paper, SPAY018, June 2004.

Chrissan, D. A., and A. C. Fraser-Smith, "A Clustering Poisson Model for Characterizing the Interarrival Times of Sferics," *Radio Science*, 38, 17-1 to 17-14, 2003.

Chrissan, D. A., and A. C. Fraser-Smith, "A Comparison of Low-Frequency Radio Noise Amplitude Probability Distribution Models," *Radio Science*, 35,195-208, 2000.

Chrissan, D. A., "Statistical Analysis and Modeling of Low-Frequency Radio Noise and Improvement of Low-Frequency Communications," Final Technical Report D179-1, Space, Telecommunications and Radioscience Laboratory, Stanford University, ONR Grants N00014-92-J-1576 and N00014-93-1-1073, August 1998. (Ph.D. dissertation)

Chrissan, D. A., and A. C. Fraser-Smith, "Diurnal Variations of Globally Measured ELF/VLF Radio Noise," *Tech. Report D177-2*, Space, Telecommunications and Radioscience Laboratory, Stanford University, ONR Grants N00014-92-J-1576 and N00014-93-1-1073, July 1997.

Chrissan, D. A., and A. C. Fraser-Smith, "Seasonal Variations of Globally Measured ELF/VLF Radio Noise," *Tech. Report D177-1*, Space, Telecommunications and Radioscience Laboratory, Stanford University, ONR Grants N00014-92-J-1576 and N00014-93-1-1073, December 1996.

Chrissan, D. A., and A. C. Fraser-Smith, "Seasonal Variations of Globally-Measured ELF/VLF Radio Noise," *Radio Science*, 31, 1141-1152, 1996.

Chrissan, D. A., and A. C. Fraser-Smith, "Seasonal Variations of ELF/VLF Radio Noise at Arrival Heights, Antarctica" *Antarctic J.*, 30, 368-369, 1996.

## **PATENTS:**

Douglas A. Chrissan and Rajarathinam G. Subramanian, "Varying pulse amplitude multi-pulse analysis speech processor and method," U.S. Patent 7272553, Sep 18, 2007.

Bryan R. Martin, Ian John Buckley, Philip Bednarz and Douglas A. Chrissan, "Voice-Over Internet Protocol Processor," U.S. Patent 7,120,143, Oct. 10, 2006.

## **HONORS and AWARDS:**

Armed Forces Communications and Electronics Association Graduate Research Fellow, 1994

Hughes Aircraft Masters Fellow, 1988-1990

National Merit Scholar, 1984-1988