Douglas A. Chrissan

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EXPERIENCE:

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

Engineering and Intellectual Property Consultant 2011–present

Alarm.com 2023–present
Expert Witness for Alarm.com, Case No. 2:23-cv-00004-JRG-RSP, and American Arbitration Association Reference No. 01-22-0004-5525. Related technology: security systems.

Gatekeeper Systems, Inc. 2023–present
Expert Witness and Consultant for Gatekeeper, Inv. No. 337-TA-1357 (USITC). Related technology: locking shopping cart wheels.

Dali Wireless, Inc. 2022–present
Expert Witness for Dali Wireless, Inc. (Plaintiff), Case No. 6-22-cv-00104 (W.D. Tex.) and No. 2-22-cv-00012 (E.D. Tex.). Related technology: cellular systems.

Roku, Inc. 2022–present
Expert Consultant for Roku, IOENGINE LLC v Roku, Inc.
Civil Action No. 6:21-cv-1296-ADA (USDC WDTX). Related technology: streaming devices.

Vizio, Inc. 2022–present
Expert Consultant for Vizio, Inv. No. 337-TA-3651 (USITC). Related technology: audio and video processing.

Bright Data Ltd. 2022–present
Expert Consultant for Bright Data Ltd., Case No. 2:22-CV-00011. Related Technology: Internet proxy services.

K.Mizra LLC 2020–present
Expert Witness for K.Mizra (Plaintiff), Case No. 2:21-CV-0241-JRG. Related technology: cellular location services.

Zircon Corp. 2020–2022
Expert Witness for Zircon (Complainant), ITC Investigation No. 337-TA-1221. Related technology: stud finders.

IPCom, GmbH & Co. KG 2020–2022

Expert Witness for IPCom (Plaintiff), Civil Case Nos. 2:20-cv-321 to -323. Related Technology: cellular systems.

InterDigital, Inc. 2021–2022

Expert Consultant, personal computing devices.

LinkedIn Corp. 2020

Expert Consultant for LinkedIn (Defendant), Civil Case No. 6:20-cv-0545. Related Technology: job search technology

Cellular Evolution LLC 2020

Expert Witness and Consultant for Cellular Evolution LLC (Plaintiff), Civil Case No. 2:19-cv-00228. Related Technology: cellular systems.

Nokia of America Corp. 2019–present

Expert Consultant for Nokia (Defendant), Civil Case No. 2:18-cv-00526-RWS-RSP (Lead case). Related Technology: cellular systems.
Expert Consultant for Nokia (Defendant), Civil Actions No. 14-cv-4666-JRT-TNL, No. 2:21-CV-00063-JRG, No. 6:21-CV-00107-ADA and No. 6:21-CV-00109-ADA. Related Technology: cellular systems.

Sony Interactive Entertainment. 2019–2020

Expert Consultant Sony. Related Technology: gaming.

Silicon Valley X-Ray, Inc. (acquired by Bruker Corp.) 2018–2021

Principal Consultant. Company produces X-Ray based semiconductor test equipment and artificial intelligence computer algorithms to detect defects in electronic devices at micron resolution.

TQ Delta 2016-2017, 2021-2022

Expert Witness for TQ Delta (Plaintiff), Civil Actions 1:15-cv-00611-RGA through 1:15-cv-00616-RGA. Related technology: Multimedia over Coax Alliance (MoCA).

Expert Witness for TQ Delta (Plaintiff), Civil Actions 13-cv-1835-RGA, 13-cv-1836-RGA, 13-cv-2013-RGA, 14-cv-954-RGA, 15-cv-121-RGA and 2:21-cv-310-JRG. Related technology: Digital Subscriber Line.

Expert Witness for TQ Delta (Patent Owner), IPR2016-01006, -01007, -01008, -01009, -01160, -01466, -1469, -1470 and -1760. Related technology: Digital Subscriber Line.

Intellectual Ventures 2013–2022

Expert Witness for IV (Plaintiff), in re Frontier Communications Corp., Case No. 20-22476 (S.D.N.Y Bkrpcy).

Expert Witness for IV (Plaintiff), Civil Cases No. 2:17-cv-00577-JRG, 2:17-cv-661 and 2:17-cv-662. Related technology: LTE.

Expert Witness for IV (Plaintiff), Civil Actions 1:13-cv-00116-LY, 1:13-cv-00118-LY and 1:13-cv-00119-LY. Related technology: Digital Subscriber Line.

Expert Consultant for IV (Plaintiff), Civil Actions 1:12-cv-00193-LPS, 1:13-cv-01668-LPS through 1:13-cv-01672-LPS; 1:13-cv-01668-LPS through 13-cv-01672-LPS and 14-1229-LPS through 14-1233-LPS. Related technology: LTE, 3G WCDMA and other telecommunications.

Monster, Inc. 2014

Expert Consultant for Monster, Inc. (Defendant), Civil Action No. 13 Civ. 8229 (KBF) (S.D.N.Y.) Related Technology: Job search websites.

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)
Engineering Director, Video Processing 2009–2011

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 2009
Technical Consultant 2007-2008
(Company ceased operations in Dec. 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	2004–2009
Systems Architect, DSL	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	2000-2003
Director, Signal Processing Algorithms	1999
Manager, Audio Algorithms	1998
Senior Software Engineer	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 development of 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 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.

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

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:

David Lewis Adler, Scott Joseph Jewler and Douglas A. Chrissan, “Methods and systems for product failure prediction based on X-ray image re-examination,” U.S. Patent 11,615,533, Mar. 28, 2023.

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.