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Summary

- Computer science, real-time (audio) signal processing (DSP), sensing and engineering background
- Designed, developed, and launched several successful hardware pro-audio products
- Designed, developed, and launched first commercially available tangible user interface
- Published academic papers on signal processing and human-computer interaction topics
- Strong with C/C++ on Mac/Windows/Linux desktop, server, and embedded platforms
- More than 20 years experience designing and developing hardware and software products
- Fluent in English, Dutch, French

Litigation Consulting

- **Sequoia Technology LLC v. Dell, Inc., Dell Technologies Inc., Hewlett Packard Enterprise Co., Hitachi Ltd, and Super Micro Computer, Jul 2021 - Present**
 - Jurisdiction: U.S. District Court for the District of Delaware
 - Case Number: 1:18-cv-01127
 - Counsel: One LLP
 - Nature of Suit: Patent
- **Provisur Technologies, Inc., v. Weber, Inc., Textor, Inc., Weber Maschinenbau GmbH Breidenbach, Weber Maschinenbau GmbH Neubrandenburg, and Textor Maschinenbau GmbH, Oct 2021 - Present**
 - Jurisdiction: U.S. District Court for the Western District of Missouri
 - Case Number: 5:19-cv-06021
 - Counsel: Sterne, Kessler, Goldstein & Fox P.L.L.C.
 - Nature of Suit: Patent

Technical Vetting & Due Diligence Consulting

- **Investment of Tenex Capital Management in Suited Connector, Sep 2021 - Oct 2021**
Technology: Lead Generation & Online Marketing Platform

Experience

Co-founder and Chief Computer Scientist, **Noisetron LLC, Burlingame, CA, January 2013 - present**

- Analysis, research, due diligence, and expert witness testimony services in software- and hardware related litigation, including patent and copyright infringement, theft of trade secrets, breach-of-contract, and other matters
- Providing general hardware and software engineering and consulting services
- System and software architecture and design, implementation scoping and planning
- Bare metal and embedded Linux, drivers, firmware, and applications in C/C++
- Performance and latency optimization, multi-threading issues and parallel workloads
- Realtime (audio) signal processing and data processing related challenges
- Low-latency algorithmic trading frameworks, back-testing and large-scale data visualization tools
- Exchange market data feed and order entry integration (CME, Coinbase Pro, etc.), data loggers

Co-founder, **Percussa, Brussels, Belgium & Los Angeles, CA, January 2004 - present**

- Developed pro-audio consumer electronics brand from scratch and engineered and launched multiple successful and innovative products used by thousands of professionals worldwide.

- Designed and developed 3 revisions of the first commercially available wireless tangible user interface (Percussa AudioCubes). Developed wireless sensor/communication system (2.4GHz)
- Designed and developed control surface with wireless radio and USB HID I/O (Percussa Remote)
- Designed and developed hardware modular sound synthesis engine featuring quad core A17 SoC, widescreen IPS display, MIDI I/O and multichannel audio I/O, USB host & device ports, encoders, and pushbuttons, customized linux OS and drivers (Percussa Engine)
- Designed and developed eurorack versions of hardware modular sound synthesis engine featuring eurorack voltage levels, multiple AKM DACs and ADCs and an FPGA and multichannel USB class compliant audio I/O (Percussa SSP and Percussa mSSP)
- Wrote all firmware and applications in C++ (with JUICE). Developed cross platform HID library.
- Developed real-time multicore audio DSP code for sample playback, granular processing, wavetable oscillators, and more. Developed multichannel direct to disk recorder.
- Schematic capture and board layout, industrial and mechanical design for all products.
- Selected and sourced parts for production, coordinated with asian and european suppliers and board assembly partners to manufacture products. Developed testing procedures.
- Developed press relations, designed and coordinated trade show booths and did demos for dealers and end users at NAMM, Musikmesse and Superbooth shows.
- Raised funding via kickstarter campaigns for Percussa products, including one funded for 314%

PhD Researcher and Assistant Teacher, **Vrije Universiteit Brussel (VUB), Belgium, 2003-2004**

- Worked on research in new musical interfaces
- Worked on outside signal processing projects
- Published and presented papers internationally
- TA for undergrad signal processing course

PhD Researcher and Assistant Teacher, **Katholieke Universiteit Leuven (KUL), Belgium, 2002-2003**

- Developed novel waveguide mesh algorithm aimed at real-time reverberation
- Published and presented papers internationally
- TA for undergrad information theory course

Software Engineer, **ICON, Belgium, 1999**

- Developed custom windows based server monitoring application, which used an SMS gateway to notify system administrators when web servers became unavailable.
- Developed windows service and control panel DLL written in C using COM to control SMS gateway and to send emails. Delivered stable and working version in less than a month.

Software Engineer, **Allmansland, Belgium, 1998 - 1999**

- Built web applications using HTML, PHP, Perl and MySQL, deploying on linux servers.

Software Engineer, **im@gic, Belgium, 1995 - 1996**

- Built web applications using HTML, PHP, Perl and MySQL, deploying on linux servers. Clients included SBB, Radio Vlaanderen Internationaal, Samsonite, ...

Education

Master of Arts in Music, Science and Technology, **CCRMA, Stanford University, 2001 - 2002**

- Designed software and hardware for 5 revisions of an electronic musical interface - an optical Laser Harp, together with Eto Otitigbe (mechanical engineering) and Luigi Castelli (sound design).
- Wrote firmware for Atmel microcontrollers outputting MIDI, designed sensor system featuring infrared and ultrasonic sensing, and low wattage laser beams, wrote wireless communication firmware and Windows host application to generate MIDI data.

- Developed tap dancing MIDI controller system and wrote Windows host application outputting MIDI. Collaborated with Prof. Thomas Defrantz, Eto Otitigbe (mechanical engineering) and Luigi Castelli (sound design) to integrate the system and run it live.
- Coursework in HCI, electronics, studio recording, signal processing, composition, etc.

Master of Science in Computer Science (summa cum laude), **Vrije Universiteit Brussel (VUB), 1997 - 2001**

- Developed QOrchestra, graphical MPEG4 structured audio development tool capable of generating SAOL files (similar to CSound), using C++ / Qt framework
- Developed drum machine software featuring generative programming in C++, targeting PocketPC / Windows CE (StrongARM SA-1110)
- Developed simple version control system using Scheme, C++ and MySQL
- Developed text-oriented adventure game in Scheme
- Wrote kd-tree implementation in java
- Wrote genetic programming tool in Scheme to find parameters for a subtractive synth to mimic recorded sounds in WAV format
- Coursework in linear algebra, discrete math, statistics, formal methods, compilers, numerical analysis, computer graphics, software engineering, audio signal processing, artificial intelligence, ...
- Graduated with Master's thesis titled "*Software Engineering in Real-Time Audio Applications*"

Awards

- Quartz Max Mathews Award for AudioCubes, Quartz Awards Organisation, 2009
- AES Educational Foundation Grant, Audio Engineering Society (AES), 2001
- BAEF Fellowship, Belgian American Educational Foundation (BAEF), 2001
- Fullbright Honorary Fellowship, Fullbright Program, 2001