Shane Denis Dunne

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Dual Citizenship: Canadian, UK

Objective:

Challenging opportunities in scientific software/systems development.

Highlights of Qualifications:

- Several patented inventions in medical imaging technology (ultrasound).
- PhD in Computer Science (UWO 1995).
- Co-inventor of widely licensed 3D ultrasound technologies.
- 30 years experience in software development, 20 in medical imaging systems R&D.
- Experience recruiting and mentoring technical staff (software, electronics, testing, creative)

Education:

1990-1995 PhD (computer science), University of Western Ontario, London, ON.
1987-1988 MSc (computer science), UWO
1983-1987 BSc (computer science), UWO

US Patents:

6,626,834 Spiral scanner with electronic control (2003)
6,461,298 Three-dimensional imaging system (2002)
6,378,376 Ultrasound transducer mounting assembly (2002)
6,334,847 Enhanced image processing for a three-dimensional imaging system (2002)
6,198,956 High speed sector scanning apparatus having digital electronic control (2001)
5,964,707 Three-dimensional imaging system (1999)
5,842,473 Three-dimensional imaging system (1998)
5,454,371 Method and system for constructing and displaying three-dimensional images (1995)

Publications:

Dunne S, Napel S, Rutt BK: Interactive Display of Volumetric Data by Fast Fourier Projection. Computerized Medical Imaging and Graphics 16:237-251, 1992.

Three-Dimensional Ultrasound Tomography of the Eye. H. John Shammas MD, Shane Dunne, Yale L. Fisher MD. NovaCoast Pub. Co. 1998. ISBN 0-9684731-0-5.

Intraocular Lens Power Calculations. H. John Shammas MD. Slack Inc. 2004. ISBN 1-55642-652-6. I contributed the chapter on physical principles of A-scan ultrasound.

Employment:

2005 to present: Shane Dunne & Associates Inc. (consultancy), Kingston, ON.

- Most recent: implemented a system for real-time GPS tracking and data acquisition in heavy vehicle fleets (highway maintenance and snow management). This project involved embedded systems (Linux), PC's (Windows), and internet servers (Linux).
- 5 years under contract to the largest US-based ophthalmic diagnostic ultrasound manufacturer. Recruited and managed staff in Kingston. Developed new line of USB-connected B-scan and A-scan systems. Maintained multiple shipping software products including aspects of FDA/ISO documentation.
- 1 year with additional staff, developing game-based software for neurofeedback (EEG based biofeedback treatment for ADHD and other brain-related conditions)
- Shorter projects:
    - Firmware and server software for wireless, internet-based smart water meter.
    - Software for real-time quantitative EEG and bio/neurofeedback.
    - Real-time 3D guidance software for bone-implant surgery
    - Real-time 3D tracking system for human biomechanics analysis

1997-2004: Vice President, R&D, Ophthalmic Technologies, Inc. (medical device manufacturer and vendor), Toronto, Canada.

- Recruited and led a technical R&D team of five (software, electronics).
- Designed, developed, and brought to market an A/B-scan ultrasound imaging system based on an entirely new (patented) electromechanical principle.
- Brought two other ultrasound products to market (A-scan biometry, high-frequency B-scan) in spin-off projects.
- Migrated 2D/3D ultrasound software from Macintosh to Windows platform (C++/MFC).

1996-1997: Freelance consultant to OTI and Robarts Research Institute (RRI), London, ON

- For OTI, added several key advances to core 3D ultrasound technology, licensed from RRI (of which I was co-inventor).
- For Dr. Ting Lee at RRI, developed software for X-ray CT image series registration.

1993-1996: Senior Software Developer, Robarts Research Institute (RRI), London, ON

- Co-developed a software-based technology for 3-dimensional ultrasound imaging, covered by several US patents (above), and since widely licensed (including to VSI).
- Developed software for 3D MR Angiography visualization.
- Key advances included two software techniques for real-time visualization of large voxel data sets (frequency-domain rendering and fast interactive MPR on limited hardware)

References:

- Aaron Fenster, PhD, Director, Imaging Research Lab, Robarts Research Institute, London, Ontario, Canada: +1 519 663 3833.
- Brian K. Rutt, PhD, Stanford University Medical School (brutt@stanford.edu)
- Barry Durante, President, SonomedEscalon, Inc., Lake Success, NY. +1 516 354 0900.
- Many others available on request.