ZHAN HUAN ZHOU

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OBJECTIVE

To develop innovative products in biomedical engineering that enhances the overall quality of life.

TECHNICAL PROFICIENCIES

- Previous job experience in the medical devices industry
- Proficient real-time embedded design with PIC, 8051, C167 and 68000 microprocessors
- Extensive low-level programming background in C and assembly language
- Solid foundation in digital / computer control systems and robotics
- Proven design of digital, analog, and mixed signal circuits
- Familiar with physiological and biological processes, genetics and biochemistry
- Outstanding leadership and communication skills

EDUCATION

University of Waterloo. Waterloo, Ontario. 1996 – 2001.
Honours Bachelor of Applied Science in Computer Engineering.

- Specialty in control systems, focusing on digital controllers, robotics, and digital signal processing
- Course in biomedical engineering covering EMG, EEG, ECG, imaging, and instrumentation

PROFESSIONAL EXPERIENCE

Medical Hardware Developer. Xltek Ltd. Sept. – Dec. 2000, June 2001 – Present. Oakville, Ontario.

- Designed an Intelligent Stim Probe for clinical EMG
- Enhanced the communication protocol for an intraoperative monitoring device
- Designed a board for audio and visual evoked potentials
- Wrote a Windows NT device driver for a medical data acquisition card (PCI) in Visual C++
- Researched a methodology for intraoperative motor evoked potential monitoring

Hardware Designer. Nuvation Labs Corp. Jan. – Apr. 2000. San Jose, California.

- Designed an aircraft digital video interface module with FPGA, 8051, frame buffer, and DRAM
- Performed schematic capture in OrCad

Hardware Designer. XCELLSIS Fuel Cell Engines Inc. Apr. – Aug. 1999. Burnaby, British Columbia.

- Designed a voltage monitoring system for fuel cell engines with C167

Hardware Designer. Research In Motion Ltd. Sept. – Dec. 1998. Waterloo, Ontario

- Built a semi-automatic LCD tester, improving production five-fold

Electrical Engineering Assistant. Buskro Ltd. Jan. – May 1998. Pickering, Ontario.

- Designed an embedded heating control system for high-speed printing with 8051

Embedded Systems Designer. BSM Agri Ltd. Apr. – Aug. 1997. Arthur, Ontario.

- Developed an embedded agricultural ventilation control system with a PIC microcontroller

Biochemistry Research Assistant. University of Toronto – Faculty of Medicine. Jan. – May 1996.

- Elucidation of the D-LDH protein through x-ray crystallography

OTHER PROJECTS

- Movable, refreshable Braille output device for the blind and visually impaired
- Researched DNA sequencing techniques (clone-by-clone and whole-genome shotgun)
- Researched EMG signal decomposition and analysis
- Design of a computer controlled fluid flow control system

FIELDS OF INTEREST

- Medical applications of molecular nanotechnology
- DNA probes, biochips, lab-on-a-chip, and automated DNA sequencing
- Genomics, bioinformatics, and proteomics
- Applications of EP, EEG, EMG, and ECG

PROFESSIONAL AFFILIATIONS

- Institute of Electrical and Electronics Engineers
- Engineering in Medicine and Biology Society