

DOUGLAS L. MICHEAL

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SUMMARY

Dedicated, reliable professional with diverse Engineering experience in Automation, Computer Vision, Software and PLC Programming, Robotics, Contract Research and Development, Biomedical Manufacturing, and Military Electronics. Awarded 3 patents, with other patents pending for research and development projects. Authored several publications related to additional projects and research.

CORE COMPETENCIES

- Electrical Engineering
- Automation Equipment
- Electro-optical Design
- Sensor Applications
- Computer Programming
- Computer Vision
- Motion Control
- Project Management
- Mathematical Analysis
- Robotics
- ISO 13485
- Technical Writing

PROFESSIONAL EXPERIENCE

CARBOMEDICS, INC (A Sorin Group Company) Austin, Texas. 1991 – August 2007

A global leader in the development and manufacture of implantable cardiovascular devices.

Staff Process Engineer, changed to **Staff Process Development Engineer** in 2005, 1998 – 2007

- Retained as a technical expert to transition Production equipment from the U.S. to Italy, with all equipment seamlessly installed and qualified, and training completed ahead of schedule.
- Regarded company-wide as a key technical resource, assisting Regulatory Affairs and other departments in explaining technical issues and in problem investigations of diverse scope to determine the root cause and implement corrective and preventative actions (CAPA).
- Assumed sole responsibility for a wide range of custom Production equipment following resignation of two engineers. Avoided any missed product shipments by using ability to quickly diagnose / correct equipment problems.
- Manager and primary technical contributor in development of an automated system for testing heart valve sub-assemblies to dynamically quantify valve pressure drop and backflow, and to assure structural integrity of the sub-assemblies. This system reduced man-power requirements at this operation by 60% and virtually eliminated rejects caused by equipment malfunctions.

Senior Process Engineer, 1997 - 1998

- Drafted company's Software Quality Assurance Policy in the early years of FDA and ISO requirements for such documentation. Qualified numerous systems / software applications.
- Developed hardware and software to use SEM and Microprobe equipment for elemental analysis of heart valve components, resulting in a 2-year payback over alternatives.
- Co-developed imaging systems for 100% verification of correct assembly of heart valves, virtually eliminating failures previously made in human visual inspections.

Process Engineer, 1991 - 1997

- Developed an imaging system for x-ray inspection of heart valve components, which is 5 times faster than film methods and reduced part rejects from 2% to 0.2%.
- Developed an imaging system to quantify porosity in heart valve component materials. The alternative was a highly-variable, subjective method, costing approximately \$5K for each rejected lot. Disposition variability over time was greatly reduced with this imaging system, minimizing rejects.

SOUTHWEST RESEARCH INSTITUTE, San Antonio, Texas **1983 - 1991**

A worldwide authority in contract research and development in scientific and engineering disciplines.

Research Engineer through Principal Engineer positions:

Developed computer vision and robotic systems for commercial and government applications. Work included design of electro-optical sensors, computer vision system programming, system engineering, microprocessor-based design and assembly language programming, promotional and proposal efforts, and project management.

- Secured two contracts for, and managed a 3-year project to develop the U.S. Air Force "Robotic Canopy Polishing System", deemed by the sponsor as the most successful robotic application in the Air Force in its time. Project completed ahead of schedule and under budget
- Principal Investigator for several internal research projects, resulting in patents.

MOTOROLA GOVERNMENT ELECTRONICS GROUP, Scottsdale, Arizona **1980 - 1983**

A leader in research, development, and production of military weapons and communication equipment.

Electrical Engineer through Senior Electrical Engineer Positions:

- Developed analog and digital signal processing hardware and software for microprocessor-based mine, bomb, and projectile fuses.
- Developed electronic recorders for extremely high mechanical shock tests.
- Performed mathematical analyses for test equipment to simulate ephemeral data and Doppler satellite signals used for sub-meter Transit Satellite global positioning systems (GPS).

EDUCATION

M.S. Engineering, University of Texas, Austin, Texas

Thesis: *Computer analysis of the relative efficiency of signal detectors in electrically noisy environments.*

B.S. Electrical Engineering, Lamar University, Beaumont, Texas,

TECHNICAL SKILLS

Visual C++, Microsoft Foundation Classes (MFC), Visual Basic, Windows API, .NET Framework
Borland C++ and Object Windows Language (OWL), Fortran, Forth, various assembly languages

Accessing Oracle, dBase, other databases, using ADO

Microsoft Windows 3.1/95/98/2000/XP and UNIX Operating Systems experience

Extensive experience with PC hardware

Various computer vision, data acquisition, and motion control hardware and software

Experience with many sensor technologies, especially as used in automation and process control

Working knowledge of ISO 9000, 9001, and 13485 standards

AFFILIATIONS

Institute of Electrical and Electronic Engineers

MISCELLANEOUS TRAINING

Juran Total Quality Management training.

Philip Crosby Quality Education training.

LeHigh University X-Ray Microanalysis course.

Boy Scouts of America "Woodbadge" Leader training.