

# John Callaghan

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## CHIEF SOFTWARE ARCHITECT

Deeply qualified and technically sophisticated professional capable of converting market requirements into creative solutions. Committed to producing streamlined, object-oriented, customer-centric software.

**Maximize Return on Technology Investment • Nurture Customer Relationships  
Increase Systems Reliability & Availability • Accelerate Delivery of World-Class Software**

- Architected and developed new Automated Optical Inspection system capable of visual defect recognition for the medical device industry, driving a 100% increase in company revenues. Listened closely to key customers and translated market requirements into highly successful product.
- Refactored sprawling, complex C++ application to analyze very large images (16Gb+ bitmaps) with an order of magnitude increase in speed and stability.
- Implemented agile and efficient development process that included high-powered source code control linked with comprehensive issue tracking.
- Inspired team members to think in new directions and achieve peak performance. Supported and positioned engineers in their effort to offer viable, creative solutions in highly competitive market.

### *Experience Summary*

- Image Processing
- Algorithm Development
- Motion Control
- User Interface Design
- Device Drivers
- Embedded Programming
- Parallel Processing
- Computer-Telephony
- Communication Protocols
- Web Design & Development
- Internet Technologies
- Systems Level Engineering

Executed high-level international projects in India, United Kingdom, and New Zealand while offering invaluable customer support in Ireland, Germany, Japan, and Malaysia.

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## PROFESSIONAL HIGHLIGHTS

### Visicon Inspection Technologies (2003 - 2009)

Napa, CA

*\$6 million company that develops high-end optical inspection equipment for medical device manufacturing, producing high-end machines (\$40,000 - \$250,000 each) targeted to niche markets.*

**CHIEF SOFTWARE ARCHITECT** (Mar 2008 – Mar 2009) / **SOFTWARE MANAGER** (Jan 2006 – Mar 2008)

**SENIOR SOFTWARE ENGINEER** (Nov 2003 – Dec 2005) / **CONSULTANT** (May 2003 – Nov 2003)

Promoted through series of progressive positions. Initially hired as consultant to adapt Visicon's existing software to the latest motion control technology. Upon successful completion, placed on full-time assignments.

- **Challenged** to transform a bloated and buggy legacy code base with limited functionality into the foundation of a highly efficient platform capable of Automatic Optical Inspection of stents and other medical devices for defects. **Exceeded Expectations.** Single-handedly put forth the extra effort needed to rescue company from failure.
  - Fixed hundreds of bugs, reduced number of steps needed to measure a part from 3 to 1, increased scanning speed 4-fold, and increased image processing speed 3-fold.
  - Refactored the majority of the code base, increasing stability, reducing complexity and decreasing the overall lines of code by 15% while simultaneously adding new features.
  - Integrated new cameras and motion control hardware into the Finescan system while preserving backwards compatibility with older H/W.
- **Challenged** to efficiently capture and process very large images. **Exceeded Expectations.** One of Visicon's largest customers was able to decrease the inspection time on their most complicated part from 1 hour to 3 minutes.
  - Led the conversion of Visicon's code base from 32 to 64 bits and became a beta test site for both video and motion libraries from vendors who were also porting their code to 64 bits.
  - Parallelized algorithms, decreasing time to threshold large images from 2 minutes to 30 seconds.

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- **Challenged** to save multimillion-dollar customer, a medical device manufacturer providing half of Visicon's revenue. **Exceeded Expectations.** Salvaged and nurtured relationship, leading team to reduce the system's inspection time of a typical stent from 2.5 minutes to 30 seconds. Project success led to securing future projects continuing to lead to 50% of Visicon's revenue over the next several years.
  - Spent several weeks at customer's facility designing new interface to their specifications.
  - Redesigned original system, integrating a new CAD comparison module developed by India office.
  - Stayed in constant contact with customer, traveling frequently to facility to demonstrate progress and get their feedback on system's features and performance.
- **Challenged** to generalize the software capability to support new markets. **Exceeded Expectations.** Led the engineering effort to produce an automated inspection system for the medical tube industry. The result was the first Visicon system capable of intelligently self-configuring itself.
  - Partnered with marketing to visit prospective customers and gather requirements.
  - Transformed concept to clean sales demo for a major trade show, with a very high level of sustained effort, over a short six-month time frame.

**Intel (1999 - 2002)****Santa Clara, CA***\$40 billion international chips and communication devices company.***SENIOR SOFTWARE ENGINEER**

Recruited due to knowledge of key technologies and ability to work with multiple developers. Integrated hardware device drivers and libraries developed in the U.S. with an open standard multi-vendor library developed in New Zealand.

- **Challenged** to marry different code bases across the U.S. and internationally with the 2 principal ones located in New Jersey and New Zealand. **Exceeded Expectations.** Produced connection libraries to handle voice call transfer, conferencing, voice recording, etc. These all operated without dropping calls and provided complete traceability to other layers within the overall architecture.
  - Helped the California-based team to achieve its objective of creating the lower-level API functions while working with engineers in New Zealand to marry the 2 code bases.

**Earlier Career Experience:****Dialogic Corporation ~ Parsippany, NJ ~ 1992 – 1999****GROUP LEADER (1995 – 1999) / PROJECT LEADER (1994 – 1995) / SENIOR SOFTWARE ENGINEER (1992 – 1994)****RFL Electronics ~ Boonton, NJ ~ 1987 – 1992****SOFTWARE ENGINEER****EDUCATION ~ TECHNICAL QUALIFICATIONS****Education*****Pursued Master's degree (M.S.) in Computer Science at:*****Columbia University-New York, NY & North Carolina State University-Raleigh, NC****B.S., Electrical Engineering & Computer Science, Stevens Institute of Technology-Hoboken, NJ  
*Graduated Summa Cum Laude*****Technical Knowledge****Operating Systems:** Windows, Linux, VxWorks, pSOS, OS/2, Netware**Languages:** C++, C#, VB.Net, Ruby, Java, JavaScript, Perl, PHP, FORTRAN, 80x86 Assembler**Databases:** SQL-Server, MS-Access, MySQL, Informix, Oracle**Hardware Integration: Motion Controllers, Frame Grabbers, Cameras, Telephony Boards****Tools:** VisualStudio, AccuRev, Jira, Ruby-on-Rails, COM, XML, OpenMP, JQuery, ASP, SOAP**RECOMMENDATIONS**<http://www.linkedin.com/profile?viewProfile=&key=12995444#recommendations>