

Zoran Lazarevic

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Highlights

- Developed software for a medical device that completed over 1000 treatments during a clinical trial
- Designed medical device software for a life-supporting heart assist device used on one patient
- Implemented networking security embedded software used by AT&T, Avaya, Lucent, Sprint

Technical Skills

- C/C++, Ruby, Java, JavaScript, Perl, SQL, Bash, XML, HTML
- Top to low-level TCP/UDP/IP, PPP/SLIP, network management
- Windows, Linux, Lynx, pSOS, BSPs without an operating system
- Matlab, Mathematica, LabView
- Medical device development (Class II and III)
- Embedded systems, OO, linear algebra, signal processing, robotics, electronics, AI.

Experience

CONTRACTOR

Bloomberg, New York, NY
12-2008 to Present

- Developed back-end service (C++, C, on Solaris) and front-end GUI (JavaScript)
- Wrote testing specifications and deployment plans

SOFTWARE ENGINEER

Nephros, New York, NY
07-2003 to 11-2008

- Developed software for the first hemodiafiltration device in the U.S. (C on HC12, TMS320)
- Class II medical device, major level of concern, conforming to IEC60601-1-4
- Wrote specifications, design, risk analysis, verification&validation documents, user manual, SOPs under design control.
- Involved in the whole development lifecycle, including IDE and 510(k) submissions.
- Designed automated verification framework. Designed unit test framework. Performed V&V activities (reviews, testing, reports).
- Wrote software for extracting natural language requirements from Visio documents for automated software verification (Ruby+OLE, Visio, VBScript)
- Troubleshooting electronics (digital, analog, RF), hydraulics, sensors
- Designed Graphical User Interface, performed ergonomic assessment

SENIOR SOFTWARE ENGINEER

Ion Networks, Piscataway NJ
04-1999 to 05-2003

- Wrote telecom security software in C, C++, assembler for 68360 and MPC8360 (PowerPC)
- Wrote RS232 device drivers and SLIP/PPP protocols on LynxOS, pSOS. Modified Linux drivers.
- Implemented multi-factor/challenge-response authentication
- Network management agents: Implemented legacy-to-XML data access, designed SNMP agent with bindings to a scripting language.
- Modified all code, from device drivers to application layer, to expand from 2- to 4-byte pointers
- Designed Java auto-documenting tool for legacy CCL code, w. JDBC/SQL storage.
- Developed C/C++/Java/Tcl software for secure management and monitoring of critical infrastructure. The solution spanned Windows, Linux, Lynx, pSOS OSes, utilized iptables, XML communication, MS-SQL back-end.

CONSULTANT (Part Time)**Transcripts Associates, New York, NY
2001 to Present**

- Developed Winamp and Windows Media Player plugins (Visual C++) for USB and RS232 pedals
- Developed DSP algorithms (Matlab) and plugins (C++) for decoding digital time code embedded in audio signal (SMPTE LTC)
- Win32 API GUI, multithreading, interprocess communication
- Subcontracted and oversaw work of other developers

SOFTWARE ENGINEER**Cardio Technologies, Pine Brook, NJ
09-1997 to 04-1999**

- Designed software for a Class III life-supporting medical device (C++, i386, PC104, no OS)
- Responsible for software development through entire product life cycle: from requirements through implementation to validation and QA
- Developed and implemented DSP algorithms for real-time EKG R-wave and Tachycardia detection on SHARC DSP microprocessor (patented)
- Coordinated logistics and conducting of animal studies
- Designed LabView automated testing software for validating EKG detection

GRADUATE RESEARCH ASSISTANT**Columbia University, Computer Science Dept
06-1996 to 09-1997**

- MS Thesis: Stewart Platform with Fixed Actuators as a Platform for Coronary Artery Bypass Graft Surgery
- Developed data acquisition, signal processing and robot control apps in C++, Matlab, Labview
- Designed and implemented C++ software to control a heart-assist device (C++ Builder)
- Devised algorithm for estimation and B-spline 3D modeling of beating heart from ultrasonic signals (Matlab, Java 3D visualization)

SOFTWARE DEVELOPER**COCOS Computers, Yugoslavia
12-1993 to 05-1996**

- Implemented SQL FoxPro accounting application as a team member
- System administrator for NetWare, TCP/IP, Microsoft Network LAN
- Trained novice computer users, designed corporate web pages

Education

- **M.S. in Bioengineering**, concentration in Computer Science, Columbia University, 1997
- **B.S. in Electrical Engineering**, concentration in Telecommunications, Belgrade University, Yugoslavia, 1995

References available upon request.