

# DENNIS LEE BIEBER

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## OBJECTIVE: SOFTWARE ENGINEER

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## SUMMARY OF QUALIFICATIONS

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Over 15 years in the field of software engineering and development.

- Responsible for the analysis and research of proposed software efforts, analysis and definition of software requirements and designs, presentation at design reviews, and implementation of approved designs.
- *Operating Systems*: Open VMS, Windows 9x/NT/XP, Linux/UNIX variants.
- *Languages and Tools*: Ada 95 (GNAT/GPS), Python, FORTRAN (F77, introductory F90), SQL, C/C++, Visual BASIC 6, HTML 4, MS Office Suite, REXX and DCL scripting, familiar with Pascal, MySQL, OOAD/UML, Clearcase.

## WORK EXPERIENCE

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1980 – Present

Lockheed Martin Space Systems Company  
Sunnyvale, CA

### *Software Engineer Staff*

- 2010 – Present: Designed and populated an Access/JET database for use in producing reports mapping spacecraft processor board cable/pins through to simulation model input/output. Required some rather complex subquery SQL due to limitations in the JET SQL parsing of nested JOIN statements. Original development had been in Python using SQLite until the overhead of reloading the data set each time the schema had to be modified became a hindrance. Transitioning to Geosynchronous Software Test System (GSTS) support, primarily with regards to the simulation of the Energy-Backed Static Random Access Memory (EBSRAM) simulation. [Python, SQL (SQLite and Access/JET)]
- 2005 – 2010: Develop modifications to the test simulation software of the Space-Based Infra-Red Satellite (SBIRS) Functional Test Assembly (FTA) in response to changes in requirements and discrepancy resolution, including documentation sets for simulation models. Primary engineer for the Payload Interface (PLIF) and Thermal Control System (TCS) simulations (the latter being a misnomer as it exercises the flight thermal control software via simulation of changing thermal conditions of the spacecraft; it does not simulate the thermal control itself). [Ada 95, via Clearcase]
- 2003 – 2005: Designed and coded a command formatter utility for the SBIRS FTA Lab running on a GFE laptop generating externally clocked, synchronous, balanced/differential ternary output via the parallel port of the laptop. This was originally meant to be a means of uploading “red” decryption keys to a GPS receiver while bypassing the normal FTA satellite control computer systems (leaving the FTA unclassified for normal operations). The program was superseded before ever being used by a change in the CONOPS to the use of “black” keys and the design and implementation of a SunOS C program to handle the serial port variant of the High-Level Data Link Control (HDLC) and key transfer protocols used by the Data Transfer Device (DTD), producing a file for upload via the FTA systems. Developed configuration set-up and reporting utility programs for GSTS support. [W98se/Visual C++ and MFC/SunOS/C/Python]

### *Software Engineer, Specialist*

- 2001 – 2002: Developed diagnostic test toolsets for communications-control hardware; developed test-data extraction and analysis-support tools for use by the Advanced Studies Group and senior system designers. [NT/Visual BASIC, VBA-Excel, VMS/DCL]
- 1998 - 2001: Designed the PEGS Post-Processing and PEGS Command/Control software. Presented these

designs to review boards. Implemented the PEGS Post-Processing software and significant portions of the Command/Control process. Designed and implemented changes, including access interlocks for network shared data files, to permit command and control of two independent parallel PEGS systems. [VMS/FORTRAN 77, DCL, LINUX/Python]

*"His efforts were a significant contribution to the success of the delivery and installation of the final product"* [Jack Almstad; Supervisor]

- 1997 - 1998: Designed and implemented data extraction and conversion modules for a "Quick Response Contract" (QRC) proof-of-concept effort (which subsequently lead to the PEGS effort). Redesigned and rewrote a flawed implementation of the QRC Command/Control software. [VMS/Fortran 90, DCL]

*"Dennis continued to demonstrate his unique programming skills and in-depth knowledge and understanding of the QRC software architecture leading to error-free software operations."* [Wayne Mathiasen; Advanced Studies Group/QRC Lead]

- 1992 - 1996: Converted Mission Planning Software System (MPSS) files from direct-/relative-access, fixed-size files to ISAM allowing for future growth. Analyzed the myriad MPSS files developed over years of independent upgrade and modification efforts with the eventual goal of conversion to an RDBMS.

*"His critical evaluation of the proposed design and his innovative solutions will have a leveraged cost savings for the development of CMS software as the CMSU team benefits from Dennis' excellent design suggestions."* [Steven P. Shiflett; Scientific Programmer Specialist]

#### *Scientific Programmer Analyst*

- 1990 - 1992: Designed and implemented the conversion of an MPSS graphics application from Ramtek 9300-series graphics engine and VAX mainframe to networked color VAXStation. This was an 18-month effort entailing 600+ lines of FORTRAN 77, 2,000+ lines of C, and 2,500+ lines of user-interface (UIL) definition. [VMS/FORTRAN 77, C, GKS and DECWindows]

*"Due to his excellent performance, the software development effort completed one month ahead of schedule."* [Betty Larson; Group Engineer]

#### *Scientific Programmer Senior*

- 1982 - 1990: Ported portions of MPSS from DEC PDP-11 FORTRAN to VAX VMS FORTRAN 77. Maintained and upgraded MPSS for ten years of evolution in related hardware capabilities.

#### *Scientific Programmer*

- 1980 - 1982: Ported the Automated Requirements Traceability System (ARTS) to the Precision Location Strike System (PLSS) development environment. Designed and implemented an interface scheme between the Computer Assisted Systems Integration (CASI) effort and ARTS.

## **EDUCATION**

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Grand Valley State University Allendale, MI  
*Bachelor of Science in Computer Science* June 1980

- Emphasis on Operating Systems and Systems Software (Xerox Sigma-6/CP-V; FORTRAN IV, COBOL 74, BASIC, Pascal, DBTG Network Database, Assembly)

Lowell Senior High School Lowell, MI

- Graduated with honors.

## **PROFESSIONAL MEMBERSHIPS**

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*Association for Computing Machinery; SIGAda*