

# DENNIS LEE BIEBER

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## SUMMARY OF QUALIFICATIONS

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Over 15 years in the field of software engineering comprising analysis, development, and maintenance.

- *Languages and Tools:* Python, Ada, C/C++, SQL, Fortran, OOAD/UML.

## WORK EXPERIENCE

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February 2013 – March 2017

General Electric Aviation Systems  
Grand Rapids, MI

### *Lead Engineer – Embedded Systems*

- Fall 2016: Port, configure, and run, HINT benchmark suites on Xilinx ZCU102 (with BeagleBone Black and Raspberry Pi 3 as comparison baselines). Evaluate potential of LLVM/DragonEgg for porting applications to ZCU102.
- 2015 – 2016: Develop driver module for new Airbus BootROM flash memory as ECC feature required use of buffered writes and old style non-buffered write speed is much slower on the new flash modules. Perform Data Loader testing of the 737 BootROM. Support investigations of BootROM problems (an intermittent on-going activity).
- 2014: Update PITS/sFMS BootROM SLCD to support certification. Support investigation of failure in SBFMC hardware refresh via creation of instrumented BootROM and RTP builds.
- 2013: Perform network latency study for various Cross Domain Solution products.

November 1980 – October 2011

Lockheed Martin Space Systems Company  
Sunnyvale, CA

### *Software Engineer Staff*

- 2010 – 2011: Developed an Access/JET database mapping spacecraft processor board cable/pins through to simulation model input/output.
- 2005 – 2010: Primary engineer for the Space-Based Infra-Red Satellite (SBIRS) Functional Test Assembly (FTA Payload Interface (PLIF) and Thermal Control System (TCS) simulation models.
- 2003 – 2005: Implemented a command formatter utility for the SBIRS FTA Lab to run on a (Government Furnished Equipment) laptop, generating externally clocked, synchronous, balanced/differential ternary output via the parallel port. Later superseded by a change in the CONOPS to the use of “black” keys rather than “red”, and implementation of a SunOS C program handling a serial port variant of the High-Level Data Link Control (HDLC) and Key Transfer protocols of the Data Transfer Device (DTD).

### *Software Engineer, Specialist*

- 1996 – 2002: Designed both the PEGS Post-Processing and Command/Control software and presented it to customer review boards. Implemented the PEGS Post-Processing software and portions of the Command/Control process. Designed and implemented data extraction and conversion modules for a “Quick Response Contract” (QRC) (proof-of-concept predecessor to the PEGS system). Redesigned and wrote the QRC Command/Control software after field trials proved the provided control software was significantly flawed.

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

*“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) from use of fixed-size direct-access files to ISAM, permitting future file growth without code changes. Analyzed the myriad MPSS files developed over years of independent upgrade and modification efforts for 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: Converted an MPSS graphics application from a Ramtek 9300-series graphics engine on a VAX mainframe to a networked color VAXStation. This was an 18-month effort encompassing 600+ lines of FORTRAN 77, 2,000+ lines of C, and 2,500+ lines of user-interface (UIL) definition.

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

#### *Scientific Programmer (Senior)*

- 1980 – 1990: Ported the Automated Requirements Traceability System (ARTS) to the Precision Location Strike System (PLSS) development environment. Developed the interface scheme between the Computer Assisted Systems Integration (CASI) effort and ARTS. Supported MPSS through ten years of evolution in hardware capabilities and operational requirements.

## **EDUCATION**

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Grand Valley State University

Allendale, MI

*Bachelor of Science in Computer Science*

- Emphasis on Operating Systems and Systems Software

Lowell Senior High School

Lowell, MI

- Graduated with honors.

## **PROFESSIONAL MEMBERSHIPS**

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*Association for Computing Machinery; SIGAda*