

Michael Bryan Kelly

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Summary

Extensive experience and success in systems and software engineering, operations, and maintenance. An engineer that persistently seeks out and resolves any type of difficulty. Able to cross engineering boundaries to determine the true problem, devise the path forward, and implement the changes.

Professional Experience

Telemetry Engineer, Tyndall AFB FL, 83rd FWS **Oct-2009 – 2017**

Joined the small engineering staff of the 83rd Fighter Weapons Squadron and assigned sole responsibility for the real time telemetry display system. Began with unopened boxes of Smartronix's G2 decommutation hardware and software, and Symvionics' IADS (Interactive Analysis & Display System, computers and software) and within two months produced a working system supporting fighter jets conducting live fire missions with air to air missiles. Moved the 83rd from paper strip charts and patch panels to real time displays on monitors. Designed, created, and integrated software to extract parameters from message based telemetry. (C++, Visual Studio) Designed and created software to automatically build project files for complex telemetry streams (Excel VBA). We capture and display real time telemetry from all fielded U.S. air to air missiles, up to 20 missiles in a single four hour mission and up to four telemetered missiles in the air simultaneously. For seven years the telemetry system has been mission ready for every mission.

Software Engineer: Sypris Electronics, Tampa FL **Jan 2008 - Oct 2008**

Analyze, design, and implement software updates for secure communications systems for DoD and other government agencies. Platform was Visual Studio for PC and embedded systems running Windows CE.

Principal System Engineer: Honeywell, Clearwater Florida **Dec 2002 - Nov 2007**

Lead Engineer for Antenna Systems for Ballistic Missile Range Safety Technology (BMRST) system. BMRST tracks rockets during launch, monitors flight parameters, and provides the ability to terminate errant flights. Developed a set of Microsoft Excel macros to fully automate the task of importing tracking antenna log files and building charts for analysis. On my initiative analyzed the antenna tracking logs and discovered a design flaw in our S-band receivers, then verified the receiver performance with laboratory testing. The manufacturer corrected the design defect. Analyzed the fiber optic system connecting the antennas to the receivers and discovered that the fiber optic receivers were being overdriven. Inserted fiber optic attenuators and transformed the system from marginal performance to fully meeting design specifications. Created and updated system and component requirements in DOORS (Dynamic Object Oriented Requirement System, a management system for large projects). DOORS group administrator for several projects. Wrote system performance analysis for all missions for submission to vendors and government agencies. Implemented the use of Serena Version Manager for control of procedures and manuals. Wrote O&M manuals, testing procedures,

operational procedures, and trained active duty Air Force personnel in use of BMRST. Team member for more than ten rocket launch missions including a launch from Kodiak, Alaska.

Senior Software Engineer: LMSO at Kennedy Space Center, FL. April 1999 - November 2002

Team member designing and creating NASA's Checkout and Launch Control System (CLCS), ground system to launch the space shuttle. Developed test concepts, designed and wrote test applications to verify the Launch Data Bus communications system. Created and documented: requirements, detailed designs, implementation procedures and Quality Assurance verification procedures. Coded, implemented, tested, and integrated applications into the test suite. Used RAZOR as the Code Management System tool. Presented and defended requirements documents and detailed design documents to project wide review board. Presented to, participated in, and led peer code inspections. Wrote test software in the Expect scripting language to verify proper operation of ground systems gateways to the Space Shuttle. Reduced more than a week of labor intensive and tedious testing to a few hours of automated self-documenting tests.

Senior Software Engineer: Mei Technology Co. October 1992 - April 1999

Performed software upgrades and maintenance for Advanced Technology Electronic Security System (ATESS) providing physical protection and entry control for launch pad and support facilities at Cape Canaveral Air Force Station (CCAFS), Cape Canaveral, Florida. ATESS was implemented in FORTRAN running under VAX VMS. Corrected major performance problems that the original vendor could not correct. In particular my changes provided the ability to operate with failover capability to a backup system. Put all system software under version management. Performed development and maintenance software for Front End Processors and Remote Multiplexers in C using VxWorks. Designed and built a new RAC (Remote Access Controller) from off the shelf hardware using C under MS-DOS, and integrated into the security system.

Languages: Currently programming in C++ and Excel VBA. Legacy experience includes C, FORTRAN, Pascal, Ada, Expect, TCL, and various assembly languages.

Hardware Tools: Spectrum Analyzers, Oscilloscopes, Logic Analyzers, In Circuit Emulators (ICE), Time Domain Reflectometer (TDR), Serial Data Analyzers, and other standard tools for analysis and repair.

Security clearance is currently active.

Bachelor of Computer Science 1988, GPA 3.5

Veteran, U.S. Navy submarine service, Honorable Discharge, ET1(SS)

Awarded Civilian of the Quarter for the 83rd FWS squadron and the 53rd WEG Wing multiple times.

Awarded Civilian of the Quarter for Tyndall AFB Jan-Feb 2015 and Civilian of the Year for the 83rd FWS Squadron for 2016.

Some experiences omitted for brevity and relevance.