

Eric J. McGlohon
520 Little Lake Dr.
Ann Arbor, MI 48103
734 408-4573
Email: eric@dekard.com
URL: <http://www.dekard.com/>

Objectives

To work as a project lead or senior developer on the full lifecycle of a project, using my current skills to the fullest extent and learning new ones in the process.

Skills

- Experience with 802.11p, WAVE communications, DSRC, V2V, and V2I / I2V communications.
- Experience with cryptographic methodologies and algorithms, including ECDSA and TESLA.
- Experience with enhanced GPS positioning including RTKNav and GraphNav.
- Over fifteen year's proficiency in the C and C++ programming languages.
- Experience with Real time and Embedded systems.
- Proficient in Microsoft Visual C++ including MFC, Win32 SDK, and COM.
- Experience with C# and .NET programming.
- Knowledge of many networking protocols, including TCP/IP, OSI, and real-time and embedded network protocols such as MAP, CAN, DeviceNet, Unitelway, etc.
- Experience with many in-circuit debuggers and emulators, including Nohau and Lauderbach.
- Experience with many languages: Visual Basic, Pascal, assembly languages, Lisp, FORTRAN, yacc/lex, perl, and awk.
- Experience with low-level programming of many embedded processors, ARM7, PICs, NEC 78K, ATMEL, etc
- Operating systems experience: Windows (all versions), DOS, UNIX/Linux (many varieties), QNX, pSOS+, VxWorks/Tornado, and MacOS.
- Experience with UNIX internals including kernel configuration and programming, UNIX device drivers, sockets, STREAMS, shared memory, message queuing, and semaphores.

Work Experience

Jan '10 to Current **Crash Avoidance Metrics Partnership (CAMP)**, Farmington Hills, MI
Research Engineer (**Toyota Contractor**) via Kelly Technical Services

- Technical Team Member – **VSC3 Vehicle to Vehicle Interoperability (V2V-I) and Vehicle to Vehicle Communications Security (V2V-CS) projects: a continuation of the VSC-A project (see below) concentrating on the interoperability of OBEs made by different manufacturers, scalability, and security (especially CA interactions).**
- Active member of the SAE DSRC and Vehicle Safety committees.

Skills Used: C++, Design By Contract (DBC), Embedded C/Linux
Environment / Tools: SVN

March '07 to Dec '09 **Crash Avoidance Metrics Partnership (CAMP)**, Farmington Hills, MI
Research Engineer (**Ford Contractor**) via Danlaw Inc

- Technical Team Member -- **Cooperative Intersection Collision Avoidance System Limited to Stop Sign and Traffic Signal Violations (CICAS-V) and the Vehicle Safety Communications – Applications (VSC-A) Projects: research and implementation using Dedicated Short Range Communications (DSRC) and GPS.**
- Prototyped & designed algorithms, validation and testing of software releases.

- Integration of test bed systems.
- Various research projects outside of the WSU implementation.
- Member of various project sub-task teams, including Security (ECDSA, TESLA), Standards (IEEE 1609, SAE J2735), and Enhanced GPS positioning.

Skills Used: C, Embedded Linux

Environment / Tools: CANape, Netway CAN Tool, SVN, RTKNav, MATLAB, DMU/IMU, Mobileye Camera

Jan '06 to **Lear Corporation**, Dearborn, MI

Feb '07 Sr. Software Contractor via MicroMax

- Team Leader -- *Vehicle Information Module*, reads a signal from the airbag system and notifies OnStar if a crash is detected, the module also controls horn, flashers, and door unlock so OnStar can operate these options remotely. This has been a life cycle project; I have worked on this project since analysis of requirements, prototype phases, multi-party validation phase, module delivery, and issues tracking. This role included regular interactions with the customer.
- *RF Keyless Entry and Tire Pressure Monitor Module*
- *Memory Seat Module*
- *Rear Seat Folding Module*

Skills Used: C, Embedded Systems, CAN, GMLAN

Environment / Tools: NEC 78K0 processor, NEC IECube, Vector Tools, CANdela Studio, CMSynergy source control, TCR requirements management package, Profile, MxVdev

Oct '05 to **Applied Dynamics, Inc.**, Ann Arbor, MI

Jan '06 Integration of new PXI board drivers for the rtX Simulator;

Scramnet Reflective Memory, Windows Driver for an in-house simulator board, ACSB, TCP/IP Ping Functionality

Skills / Environment: C, TCP/IP, UNIX, QNX

Mar '05 to **Accurate Technologies**, Wixom, MI

Aug '05 Sr. Software Engineer, Measurement and Control Systems:

- Implemented parallel flash programming on ECUs with Black Oak processors, controlled by the M6 Memory Emulator Calibration Tool
- Integrated new ECU hardware and software with M6
- As part of a new hardware revision of the Vision Network Hub, refactored existing CAN chip classes and implemented new CAN chip classes for the Philips SJA 1000.
- Fixed various bugs and added enhancements to the M5 and M6 Calibration Tools

Skills / Environment: C++, CAN, Embedded Systems, MPC555 Processor, Visual Studio, Single Step, Lauderbach, Logic Analyzer

Oct '04 to **Applied Dynamics, Inc.**, Ann Arbor, MI

Mar '05 Software Contractor via Professional Resource Associates

Integration of new PXI board drivers for the rtX Simulator including: Digital I/O, IRIG-B, ARINC, 429, ARINC 422, and Variable Resistance Module

Skills / Environment: C, C++, UNIX, QNX

Dec '03 to **Siemens Medical Devices**, Ann Arbor, MI

August '04 Software Contractor via Stout Systems Services

KinetDx team:

- Implemented DVD burning enhancements to existing software.
- Added Image Edge Enhancement functionality.
- Found and fixed numerous bugs in software, in preparation for release. Initial bug count: 250+, bug count at finish of contract: 20, personally responsible for over 30 bugs fixed.

Skills / Environment: C++, C#, Visual Studio, .NET, DICOM

May '01 to **DGE/Detroit Engineering Center**, Rochester Hills, MI
Nov '03 Sr. Software Engineer.
Vector CAN driver validation project for DaimlerChrysler:

- Implemented a COM interface between a MFC application and existing CANoe software.
- Implementation of the Transport, Diagnostic, and DBKomm portions of the dynamic application layer to test Vector's CAN driver on various embedded systems.
- Creation of various Transport, Diagnostic, and DbKomm tests for above system.

Skills Used: C, C++, CAN, Keyword Protocol 2000, CAPL, DbKomm
Environment: Windows 2000, Embedded Systems, CANoe, Vector Drivers, Lauderbach Trace 32, Windriver Diab, iSystems, and Nohau Tools

June '93 to **Dekard Software, Inc.** Ann Arbor, MI
May '01 *Independent Consultant/Contractor:* Software development to a variety of companies:

DaimlerChrysler - Automated Durability Road, Chelsea Proving Grounds.
Responsible for maintaining, modifying, and upgrading the embedded, control and operational software for a wireless controlled robotic automotive durability test track. Troubleshoot and fixed track errors, added capacities for new tests, made system improvements for reliability and safety, implemented a software and hardware upgrades.
Skills / Environment: C/C++, 802.11, pSOS+m, SingleStep, Digital Unix, GNU Tools.

Northern Ampower - UTS Project: Design and implementation of a Universal programmable test system. An automotive transmission test stand control system that uses a VME PowerPC running pSOS+ for data acquisition and real-time processing, a VME PC running Windows NT for the front-end user interface, and a PLC for machine motion control. Used for Clutch Test Systems, Transmission Test Systems, and others. Responsible for front-end, back-end real-time data gathering and core control software.
Skills / Environment: C++, yacc, VME, pSOS+, SingleStep, Windows NT, GNU Tools

Xycom - Design and QA testing of Unitelway and DeviceNet drivers and GUI interfaces for a family of Man Machine Interfaces (MMIs).
Skills / Environment: C++, Visual C++, Embedded Systems, VRTX

Hoffman End of Line

- Design, implementation and modifications of multiprocessor VME based automotive end-of-line wheel-alignment systems, including end-of-line and drive-train systems.
- Design and implementation of a UNIX Streams Ethernet Link Level device driver.

Skills Used: C, TCP/IP, Streams, Statistical Process Control, Kernel Device Drivers.
Environment: Venix, pSOS+, VME.

Oct. '91 to **Open Networks Engineering**, Ann Arbor, MI
June '93 *Software Design Team* -

- Design and implementation of a transport level driver for an OSI proprietary stack.
- Design and implementation of a MAP driver for an AB prototype board using VRTX.

Skills / Environment: C, TCP/IP, MAP, OSI, UNIX, VME, Allen-Bradley PLCs

Education

Associates Degree Washtenaw Community College. Computer Science Major.

References

Furnished upon request.