Brian McMillin

Design Engineer

PROFILE

Mr. McMillin has been a research and design engineer for a variety of high-tech industries including oil and gas, aerospace, super-computing and telecommunications. He is a Dallas, Texas native and comes from a family where he learned electrical engineering from an early age. He is a member of numerous professional and technical organizations. Mr. McMillin has been involved with many tightly-focused software and hardware product development projects.

EXPERIENCE

Sr. Design Engineer, BKMcM.com, Little Elm, TX — 2002 — Present

- Designed 3D-printed prototype robot motion actuators and control systems

- Designed and implemented machine vision tools for image element analysis

- Designed message routing protocol for use with stateless intermediary routers

- Developed in-line documentation and source code generation for web-based applications

- Developed gate-level interactive logic simulator for logic system design and documentation

- Developed CentOS applications for secure manipulation of image data for the banking industry

- Developed networking simulator for message-passing design of supercomputer interconnects

- Designed and implemented wireless SCADA system for oil field applications

- Designed multiple fluid volume measurement sensors for in-tank installation

- Developed iDB Associative Database and its corresponding Quick Query Language as an alternative to SQL databases for collaborative mobile Apps.

- Developed CADscript pure web-based Computer Aided Design and CNC machine control software

- Developed iPhone / iPad Apps and webApps using HTML5, CSS, JavaScript

- Designed and implemented remote firmware update technologies for use with Microchip PIC controllers.

- Designed and implemented data communication protocols for remote equipment monitors using cellular SMS, cellular GSM / GPRS / EDGE and Iridium Satellite SBD transports

- Designed and implemented PICdev high-level assembler tools for Microchip microcontrollers

- Designed and implemented "under the glass" automated meter reading hardware and firmware for the electric utility industry.

Founder, i2Probe, Dallas, TX, 2004
Design and manufacture specialized probes for field personnel to use with automated residential electric meters.

VP and Chef Technology Officer, AFX Technology Group, 1996-2002
- Obtained multiple U.S. and international patents relating to wireless ad-hoc (mesh) networking

- Designed and Implemented MinionNet™ software and hardware for all development units

- Designed and Implemented Network Performance Modeling software for mobile short-range communications

- Designed and Implemented AFX data collection back-end processing and data visualization systems.

Design Consultant, Digi-Tech Consultants, Dallas, TX — 1977-1996
- Designed, implemented and maintained high speed real-time data acquisition and communications hardware and software for oil field instrumentation for Mobil Oil

- Developed purchasing, inventory, and manufacturing database system for Electrospace Systems, Inc.

- Developed chip level memory diagnostic for Action Communication Systems, division of Honeywell

- Developed line noise measurement firmware using digital signal processors for the Roadrunner switch for Action Communication Systems, division of Honeywell

- Designed and implemented hardware, firmware and software for disk and tape drives for Convergent Technologies workstations for the Corporation for Distributed Systems

- Designed and implemented graphical hardcopy drivers for various printers for Medical Graphics Corporation

- Designed and implemented firmware for a Smart-Card based security access control system for Microcard Technologies, Inc.

- Developed commercially published mass market astronomy software for IBM PCs.

WHITE PAPERS

Addison Architecture — Secure, bit-oriented, general-purpose computer processor design

Little Elm Architecture — High speed Single Instruction Multiple Data (SIMD) processor design using sequential-read and branchless conditionals

Slán-Chain™ — Blockchain, Cryptocurrency, Storage and Contract Platform

Message Routing Protocols — Including stateless routing of internet traffic

TradeCraft™ — Untraceable, secure, clandestine messaging tool

Natural Vision Systems — Taxonomy of approaches to solving real-world vision tasks

PATENTS

Node-to node messaging transceiver network with dynamic routing and configuring United States Patent 7653394 Issued January 26, 2010

On/off keying node-to-node messaging transceiver network with dynamic routing and configuring United States Patent 7027773 Issued April 11, 2006

Wireless Transceiver Network Employing Node-to-Node Data Messaging Europe Patent Application PCT/US2000/014356 Filed December 7, 2000

Wireless Transceiver Network Employing Node-to-Node Data Messaging Japan Patent JP2003508939

SKILLS AND TOOLS

JavaScript · HTML · CSS · OpenSCAD · SolidWorks · AutoCAD · Delphi · PICasm · C · Java · Python · SVG · SQL · STL · VHDL · Verilog · G-Code · PALasm · TCP/IP · Docker · AWS · Node.js · MacOS · LINUX · Windows · iOS · X-code ·

INTERESTS

Amateur Radio · Astronomy · Camping · Caving · Computers · Cryptography · Electronics · Flying · Photography · SCUBA Diving · 3D Printing