James Patrick Bergin
Firmware / Embedded Software Engineer

e: james@bergin.pro
w: www.bergin.pro
c: (646) 787-6773

Summary

Firmware / Embedded Software Engineer with a bachelor's degree in Electrical Engineering with a varied background throughout industries including: consumer electronics, oil field services, oil field equipment manufacturing, and purchasing consulting.

Experience

Embedded Software Engineer
Paul C Buff Inc
www.paulcbuff.com
May 2017 - Present

A leading designer and manufacturer of high energy studio flash systems.
- Integral contributor to product line innovation and R&D
- Sole firmware engineer responsible for architecting and implementing embedded software for flagship product pair: the flash unit LINK and its accompanying remote trigger HUB
- Experience with: 2.4 GHz radio communications (including WiFi, Bluetooth, and proprietary protocol), Real Time Operating Systems, timing critical software
- Developed firmware for the CyberSense: a wireless radio remote for triggering and controlling Paul C. Buff flash units
- Improved various current products clearing a backlog of known issues

Firmware / Embedded Software Engineer
Artiphon
www.artiphon.com
Apr 2015 - May 2017 (2 years and 1 month)

Music tech consumer electronics start-up company that is changing the future of music creation
- Engineer responsible for developing tested, reliable, and extensible embedded C software for the flagship product, a digital musical instrument with thousands of users / customers
- Developed and deployed web-based configuration software bundle to be used with the INSTRUMENT 1
- Developed sets of tools to be used with the INSTRUMENT1, an automated compile / build / deploy script and a set of factory quality assurance tests
- Experience interfacing with: codecs, amplifiers, EEPROMs, accelerometers, gyroscopes
- Developed production tests for Quality Control of production runs
- Developed R&D software tools to explore limits and uncover possibilities of the hardware and prototype and test features
- Experience with Scrum/Agile development and Git versioning
- Compliance with EMC / EMI / CE / MFi
- Fixed bugs in and added features to an iOS application in Objective C and Swift
- Continuing support (after May 2017) of the INSTRUMENT1 including new feature updates, bug fixes, recertification testing

Measurement While Drilling Field Engineer
Halliburton
www.halliburton.com
Oct 2014 - Apr 2015 (7 months)

- Performed on site Measurement While Drilling operations for directional wells in the Northeastern USA: set up and tear down of field equipment, use of tools to determine the position and direction of the well bore in real time, and collection of data on the properties of the formation for ongoing formation evaluation

Engineering Intern
FMC Technologies
www.fmcti.com
Aug 2011 - Aug 2013 (2 years and 1 month)

- Conducted research regarding the technical and financial viability of a new subsea oil production and processing sensing product
- Modeled parts and assemblies, and drew schematics in Solidworks and AutoCAD to be used in manufacturing
- Conducted quality control inspections and warehouse admissions of critical supplies ranging from raw materials to fully-assembled components, succeeding in eliminating a longstanding backlog in both processes
- Developed training materials, including a 3D computer animation for the assembly and operation of certain subsea equipment
- Translated technical documents, including subsea equipment technical assembly instructions, material specifications, and testing procedures
- Engaged in multiple training programs including engineering processes, use of various software, and equipment information
- Participated in technical visits to various manufacturing, warehouse, and repair facilities

Education

Pontifícia Universidade Católica do Rio de Janeiro (PUC_RIO)

Bachelor's degree

Electrical and Electronics Engineering with emphasis in Electronics

www.puc-rio.br

Jan 2008 - Jan 2014

Graduate of highly regarded Brazilian university, ranked highest among private universities and 7th overall in Brazil by the QS World University Rankings and whose electrical engineering program is unsurpassed as determined by the Brazilian Ministry of Education

- Designed and prototyped a MIDI (Musical Instrument Digital Interface) controller as a graduation project
- Coursework in Microcontrollers and Embedded Systems, Field-programmable Gate Arrays, Control and Servomechanisms, Analog and Digital Communications, Computer Architecture, Analog Circuits, Power Electronics, and Signals and Systems
- Participated in workshop covering printed circuit board design and manufacturing techniques
- Honored for Academic Distinction in Introduction to Engineering course for best group project among all freshman engineering students

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Skills

Development

In-code documentation (Doxygen)	Oscilloscopes, Logic Analyzers, DMM	Limited experience with UML
Test Driven Development	Serial debugging	
Sensors	Percepio Tracealyzer	

Programming

Embedded C / C++	Assembly	HTML / CSS
Unit test framewoks	JIRA	JavaScript / Ruby
RTOS	Scrum / Agile	