Brad Hunting

PO Box 212
Berthoud, CO 80513

Phone: (720) 771-0019 (cell)
email: bradhunting@gmail.com
web: http://www.engineerontheloose.com/

Professional Objective

Technical / Engineering leadership position with a fast-paced technology-oriented organization. Opportunities for new product development, cross organization partnering, technical leadership, mentoring, and team and culture building. I have a proven track record of working across the organization to engage all stakeholders, building strong teams, and leading teams to develop and launch highly complex information and biotechnology instruments. Particular strengths developing biotechnology instrumentation, embedded and deeply embedded systems, real time control systems, software / firmware architectures, and system engineering models. I deliver experience with modern development methodologies, hands-on technical leadership, the ability to work cross-function, with a commitment to in-control project execution.

Professional Experience

Tone and Direction, LLC, Berthoud, Colorado, July 2021 – present
  Senior Technical Contributor, System Engineering and Embedded Device Security
        Senior individual contributor supporting large-scale consumer product development and launch. Primary tasks include Embedded Device Security with Secure Cloud Connectivity, Product System Engineering, and Transfer to Manufacturing.
        Focus on embedded device security utilizing ARM based Secure Processors leveraging mbedTLS and on-chip hardware accelerated cryptography blocks.

Tensentric, Boulder, Colorado, November 2020 – April 2021
  Project Director
        Lead a cross functional engineering development team partnering with business development, manufacturing, and leadership to recover an off track product development effort. Introduced multiple new development delivery processes, realigned team focus on concrete deliverables, created a schedule that was in control, and communicated project status and recovery to all key stakeholders.

Beckman Coulter Life Sciences, Fort Collins, Colorado, April 2014 – October 2020
  Product Development Lead / Sr Staff Firmware Engineer
        Primary responsibilities include partnering across the organization for new product development and leading cross functional teams to conceive, develop, and launch state of the art biotechnology hardware and software solutions.

        In my role as Product Development Lead I partner with the Business Strategy Team, Sales, Marketing, Service, Manufacturing, Quality, and Regulatory, while simultaneously leading multiple cross-functional product development teams. My job is to ensure product development aligns with

strategic business needs, that all product stakeholder needs are considered, and that the product development team meets delivery commitments by executing in a controlled and effective manner.

As Product Development Lead I am ultimately responsible for all aspects of the design, development, transfer to manufacturing, and release to market of new products. I work across the organization to ensure stakeholder alignment, provide technical direction, and create a culture of engagement and execution.

As a functional manager I support the team with mentoring, career development, hiring, engagement, and individual growth.

During my tenure with Beckman Coulter I delivered as either the Product Development Lead or as an Extended Team Lead three products to market with two more targeted to launch in the next three quarters, at the same time filling the product development pipeline with additional new products.

Qualstar Corporation, Boulder, Colorado
  System Architect and Lead Software Engineer Advanced Development Group, June 2002 – Oct 2013
    - Provide technical leadership, architectural vision, and ensure system consistency
    - Contribute across functional groups, mechanical, electrical, and software
    - Implement Agile development processes and migration to modern development tool suites
    - Work as part of a distributed team, drove migration toward distributed development tools
    - Work with customers, management, and technical staff to create product feature sets and schedules
    - Meet regularly with customers, management, and technical staff to communicate blocks, prioritize
      tasks, and deliver intermediate working artifacts
    - Mentor project staff on new technologies and development processes
    - Specific software sub-system responsibilities:
            - Media inventory management for multi peta-byte, multi kilo-tape automated tape library
            - Global media path planning for multi-cabinet, multi-robot data storage tape library
            - System POST, Initialization, Dynamic Self Configuration
            - Redundancy and fault tolerance management
            - CAN embedded networking
            - Linux kernel 2.4.x / 2.6.x, application, kernel, and device driver development
            - ADI / ADC / ADT Tape Library to Tape Drive protocol stack development

Cellport Systems, Boulder, Colorado
  Principal Engineer, November 1999 – April 2002
    Project Lead / Lead Engineer - Mobile Server Router
    - Architect and Lead Developer for mobile telematics server-router
    - Interface with US development and investment partners to develop prototype systems
        leading to over $10 Million direct investment from single investment partner
    - Travel to Japan to engage Japanese development and investment partners
        leading to $11 Million direct investment from Japanese investment group
    - Investigate and prototype new technology
    - Implement first board bring up for prototype systems
    - Driver of common software and hardware standards across product lines

- Linux kernel 2.2.x, application, and device driver development
- Work with Bluetooth chipset vendor to develop first working Bluetooth Handsfree solution
    using vendor's embedded integrated Bluetooth radio, baseband, and application processor
- Integrate vendor supplied Bluetooth chipset into Cellport handsfree technology
- Develop Java and OSGi solutions for embedded telematics
    – Work with distributed development teams in US and Japan

Qualcomm / Ericsson Wireless Communications, Boulder, Colorado
  Senior Engineer, March 1998 - November 1999
    Base Station Controller Call Processing Embedded Software:
    - Designed and developed embedded software for wireline to wireless interoperability
    - Developed board support package (BSP) using VxWorks on embedded PowerPC platform
    - Designed and developed test automation tools
    - Work across distributed teams in Colorado and California

 New York State Center for Advanced Technology, Troy, New York
 Project Engineer, August 1993 – March 1998
  Electronic Printing of Textiles: Project Lead, Sr Technical Contributor
    - System Architect and Lead Software Developer for prototype ink jet textile printing technology
    - Software and hardware development for motion control, printing systems, image manipulation
    - Circuit design and implementation, prototype, layout, manufacture, assemble, test
  Robotic Martial Arts Trainer: Team Lead, Electro-Mechanics and Software Development
    - Designed and developed embedded controller hardware, software, and operator interface
    - Patent issued for novel interactive training device
  Flexible Automation Work Cell: Team Member, Software Engineering
    - Developed networking software to run under Microsoft Windows for AB DeviceNET
  Large Scale Material Marking: Team Member, sensor development

  Dowell Schlumberger, Tulsa, Oklahoma
  Development Engineer, February 1990 to August 1993
  Team Lead / System Architect / Lead Developer, software and electro-mechanics development for
      $750K mobile chemical processing equipment, $2M project budget.
  Hardware and software design and implementation for:
    - Real time, embedded, process control systems
    - Microcontroller based local area networks
  Developed systems for extreme / harsh environments
  Actively involved in projects from design stage through manufacturing, release, and sustaining
  Representative to corporate software standards group

  Rensselaer Polytechnic Institute, Troy, New York
  Adjunct Faculty, August 1997 to December 1997
    Instructor for *Design of Mechanisms*. A course on kinematic analysis and synthesis

  University of Texas at Austin, Austin, Texas
  Research Assistant, April 1988 to December 1989

Research in the area of modeling and active control of piezoelectric ceramics

Other Work Experience

<u>Teaching Assistant</u>, Rensselaer Polytechnic Institute, Troy, NY
<u>Teaching Assistant</u>, University of Texas at Austin, Austin, TX
<u>Engineering Technician</u>, Hyclone Laboratories, Logan, UT
<u>Foreman-Reinforcement Steel</u>, McDevitt & Street Co., Phoenix, AZ
<u>Journeyman Ironworker</u>, Project Const. Corp., Big Piney, WY

Education

<u>Doctor of Philosophy, Mechanical / Mechatronic Engineering</u>
Rensselaer Polytechnic Institute, Troy, New York, Dec. 1997, GPA: 3.8 / 4.0
   Thesis: Algorithmic Visualization of Textiles.
   Department of Energy (DOE) Integrated Manufacturing Fellow

<u>Master of Engineering, Electrical and Computer Systems Engineering</u>
Rensselaer Polytechnic Institute, Troy, New York, Dec. 1996, GPA: 3.8 / 4.0

<u>Master of Science, Mechanical / Systems Engineering</u>
University of Texas at Austin, Austin, Texas, Dec. 1989, GPA: 3.9 / 4.0
   Thesis: Active Damping of a Piezoelectric Crystal for Non-Contact Distance Measurement

<u>Bachelor of Science, Mechanical / Manufacturing Engineering</u>
Utah State University, Logan, Utah, May 1988, GPA: 3.5 / 4.0

Technical Skills

<u>Development Process Models</u>	Agile / SCRUM, System Engineering Driven Development, various Iterative and Responsive methodologies
<u>Computer Languages</u>	C, C++, Python, FORTRAN, various assembly languages (x86, PIC, ARM, AVR, others), other high level languages
<u>Programming Tools</u>	Data Structures, UML, STL, Boost Libraries, GNU C/C++, Visual C++ / MFC, Visual Basic, Arduino, Matlab, Simulink, GIT, SVN, Clearcase, other source control and defect tracking tools
<u>Operating Systems</u>	Unix / Linux: device driver, network, operating system, and application programming. Embedded Linux, various distros. Microsoft Windows application programming (Win32 and MFC)
<u>Real Time Operating Systems</u>	VxWorks, VRTX32, RMX51, uCOS, QNX / Neutrino, custom
<u>Hardware Programming / FPGA</u>	VHDL (< 6 months), beginner level Verilog
<u>Microprocessors/Microcontrollers</u>	ARM, PowerPC, 80x86 (real and protected mode), 680x0, 68HC11/12/16, 8051/44, TMS430, PICmicro, Atmel AVR
<u>Embedded Development Tools</u>	In Circuit Emulators, JTAG, Rom Monitors, O-Scopes, Logic Analyzers, MPLAB, various workbench and IDE tool suites

<u>Microcontroller LANs</u>	Embedded USB, CAN, I2C, SPI, various others
<u>Automotive Vehicular LANs</u>	J1850, J1939, OBD-II (J1979), J1708/J1587
<u>Electro Mechanical CAD</u>	Autodesk Inventor, Eagle PCB, ORCAD, PADS-PCB, KiCAD
<u>Wireless PAN</u>	Bluetooth, CSR bc01/bc02, SPP, HSP, HFP, Zigbee, nRF24L01
<u>SCSI</u>	SCSI-2/3, Primary and Medium Changer Command Handlers, ADI / ADC / ADT protocol stack

Patents

6,152,863, Robotic Martial Arts Trainer; Nelson, Puffer, Bonkenburg, and Hunting

Military Service

Combat Engineer, Utah Army National Guard, Demolition Specialist, Specialist Fourth Class

Honors and Organizations

Department of Energy (DOE) Integrated Manufacturing Fellowship
H. Grady Rylander Excellence in Teaching Fellowship
Utah Army National Guard Awards:
    Military Leadership, Outstanding Achievement, Community Service

Activities

Woodworking, 3D Printing, Robotics, Martial Arts

Publications and Presentations

<u>CPJazz Software Framework for Vehicle Network and Mobile Wireless Connectivity</u>
    SAE World Congress, March 2000.

<u>Finite Word Length Effects on Digital Filter Implementations</u>
    Embedded Systems Programming, July 1997.

<u>Object Oriented Abstraction through Polymorphism and Virtual Functions</u>
    Embedded Systems Programming, July 1996.

<u>Small Area Networks based on the Controller Area Network (CAN) Part II Implementation</u>
    The Computer Applications Journal / Circuit Cellar Ink, Nº. 59, June 1995.

<u>Small Area Networks based on the Controller Area Network (CAN) Part I Theory</u>
    The Computer Applications Journal / Circuit Cellar Ink, Nº. 58, May 1995.

<u>LOADER31:A Pseudo Eprom Emulator</u>,
    The Computer Applications Journal / Circuit Cellar Ink, Nº. 40, Nov 1993.

<u>A Visualization Model For Printed Woven Textiles</u>

Proceedings of DETC98, 1998 ASME Design Engineering Technical Conference
September 13–16, 1998, Atlanta, GA

A Bi-Directional Reflectance Function For Woven Textiles
   Proceedings of DETC98, 1998 ASME Design Engineering Technical Conference
   September 13–16, 1998, Atlanta, GA

Visualization of Textiles
   Doctoral Thesis Submitted to the Graduate Faculty of Rensselaer Polytechnic Institute
   August 22, 1997

Textile Dyes for Thermal Ink Jet Printing
   IS&T's NIP 13: International Conference on Digital Printing Technologies,
   November, 1997

Thermal Ink Jet Printing of Textiles
   IS&T's NIP 13: International Conference on Digital Printing Technologies,
   November, 1997

Issues Impacting the Design and Development of an Ink Jet Printer for Textiles
  Presented at the IS&T's Eleventh International Congress on Advances in Non-Impact
   Printing Technologies, November, 1995

Web Presence

   LinkedIn :   https://www.linkedin.com/in/brad-hunting-tech-lead-colorado/
   Website :   http://www.engineerontheloose.com/
   Github :   https://github.com/bhunting
   Bitbucket :   https://bitbucket.org/bhunting
   Youtube :   https://www.youtube.com/c/BradHunting/videos