

# RICH BUDEK

## SUMMARY

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- Full Stack Web Developer that integrates electrical engineering, mechanical engineering, with front end / backends
- Degreed engineer with unique balance between hands-on and theoretical computations
- Design experience with electrical engineering, mechanical engineering, civil engineering, statistics, and software programming
- Proven team leader who can bring teams together and inspire them to upgrade their skills and produce top quality innovative products

## LICENSE

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Professional Engineering E.I.T. license # 061-023364

## EXPERIENCE

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2007–2018      Weidenmiller Company      Itasca, IL  
*VP Engineering*

- Managed entire plant from shipping/receiving to manufacturing
- Managed entire engineering team
- Managed CNC program generation
- In charge of all plant engineering and equipment upgrades and purchases
- Took a company in a stagnant 103 year old industry and upgraded it's innovation and profitability
- Increased sales from \$2.1M to \$5M in two years with innovation
- Implemented automation and controls in a company that had never done so before
- Integrated automation with customers existing controls
- Implemented first ever ERP system
- Implemented first ever 6S and lean manufacturing methods
- Linked computers monitoring to production lines
- Responsible for entire manufacturing operation as well as sales and innovation
- Responsible for managing maintenance and troubleshooting of faults
- Increased customer intimacy connections
  - w/ Mobile App on Android and iOS
  - brought in and hired first sales person from a bakery management position to be “the face of Weidenmiller” with direct connections to customers
- Responsible for profit / loss of company

- Lead a design team that designs tooling, machinery, software, CNC G-code, and automation
- Designs are done for customers as well as proprietary in-house machining
- Redesigned complete upgraded control panels on proprietary machinery built in the 1980's with no schematics nor support to embedded control with PLC and micro-controllers
- Upgraded all computers to latest operating system
- Brought in and oversaw training of first Mazak lathe
- Chief architect of strategic plan to upgrade equipment and add capacity while keeping the company out of debt
- Implemented custom job tracking software
- Chief architect of entire Weidenmiller database linking drawings, designs, CNC programs, job tracking, machinery status, billing, and accounting
- Assist customers with engineering calculations
- Assist customers with equipment selection, installation, and operation
- Implemented custom in-house QC tracking with Android tablets
- Brought 3D solids modeling of cookies, crackers, molders, and cutters to Weidenmiller Company
- Senior in-house expert on 3D of molds, tooling, etc.
- Designed first ever for Weidenmiller Company an injection molded die roll
- Designed first ever plastic insert on brass die roll for Weidenmiller Company
- Designed industry first 3D twisted parting line die molds
- Innovation and speeded up deliver times caused increase in sales by 50% even during one of the worst recessions
- Regarded by customers as the “go to guy” for engineering advice, calculations, and designs
- Have to deal with vendors, suppliers and machine shops from all over the country and world
- Regular lecturer at American Institute of Baking classes on machinery usage and design of dies
- Exhibit at trade show events
- Responsible for the entire staff of machinists, engineers, programmers, and others to answer all questions, provide guidance, and to ensure proper training

2016–2017      Cromite

Wheeling IL

*VP Engineering / Lead Engineer      currently company under litigation*

- Start up company developing the world's first handheld portable chromatography unit
- Brought passion and need for agile development, sense of urgency
- 4 person company
- In charge of all engineering: mechanical designs, mechanical NC programing, electrical design, PCB design, firmware, and Android/iOS/ PC interface software.

- Mechanical designs included high pressure (5,000 PSI) fittings, quartz glass, and syringe pump with multiple seals and o-rings
- Applying rapid prototyping techniques and multiple iterations, all parts were machined on an inhouse HAAS CNC machining center. Engineers responsible for running and machining own parts.
- Electrical design included opto-electronic beam break at multiple wavelengths, STM micro processor, and BT & WiFi communication
- PCB modifications and prototype assemblies done in house by me.
- Interface software is ground breaking in the field of Chromatography by having a UI that allows someone without a chemistry background to operate the unit, identify compounds, and generate reports.
- Software was designed by me, from the UX to the Xamarin C# software with shared code for Android, iOS, and PC.
- Currently in legal limbo as one of our shareholders is in legal trouble by being a shareholder in another company that is claiming to be a competitor.

02/2007–06/2007 BEK Systems, Inc.

Addison, IL

*Sr. Control Engineer*

- Subcontractor thru Sterline Engineering
- High speed newspaper printing equipment for MAN Roland
- Equipment installed in several locations throughout Europe
- Designed full automation panels linked together with each other and with customers production line
- Created database and HMI linking entire production line using C# and linking to PLC's

1999–2007 Consultant.

Wood Dale, IL

*Consultant to Several Customers – two of whom were BEK and Sigma Engineering*

- Design high voltage and automation panels using PLC's and computers
- Design products, tooling, machinery, robotics, and automation.
- Perform complex mathematical computations to better understand a machine or process and then use the results to design improvements
- Provide full 3D solids models of designs BEFORE they are built and utilize the latest FEA (finite element analysis) techniques to create and test optimal designs
- Designed consumer products as well commercial in store products
- Perform presentations on proposed designs to shareholders of the project.

2003–2005 Sigma Engineering, Inc.

Chicago, IL

*Consulting Engineer*

- Consult on a project basis
- Design industrial machinery and production lines
- Design large construction projects
- Field verify existing designs and proposed future designs.
- Ensure that designs meet all applicable codes and that they are granted the proper building permits.

1999–2004 Power House Tool, Inc.

Joliet, IL

*Consultant & Design Engineer*

- Consulted on a project basis
- Designed test and measurement tools for the power industry
- Designed equipment that is used in the largest and most efficient nuclear power plants
- Did on-site installation, training, and supervision in the use of equipment at nuclear, fossil, and natural gas turbine power plants
- Created battery powered instruments linked to Windows CE handheld devices
- Presented at major power industry shows and seminars

1995–1999 Siligan / White Cap, Inc. (Continental Can)

Downers Grove, IL

*Senior Project Engineer*

- Mentored project engineers, associate engineers, and co-op students
- Interfaced directly with electricians, panel houses, machine shops, and PCB houses during construction of projects
- Thought of, researched, and started development of a completely non-contact Moiré interferometer vision gauging system
- Developed “intermediate” mechanical contact gauging system that sends values over directly into Excel
- Developed DSP based system for detecting tamper bands on jars
- Co-developed completely servo driven sheet fed press and was responsible for on-site debugging and startup
- Developed servo driven capping equipment with PLC controls
- Installed machinery, equipment, and software all over the world
- Performed statistical design of experiment (D.O.E.) that solved collapsed sidewall problem. This was an extensive problem that eliminated supposedly “intermittent” defect with tooling and machinery.
- Solved other problems using statistics that occurred down to 2-3 defects per 2 million
- Solved compound pouring problems using statistical design of experiment, requiring many different instruments to be hooked up
- Designed pressure monitoring system while compound is being poured to correct defects discovered during D.O.E. This was an on-line embedded micro-processor. Future upgraded to PC/104 system.
- Designed force monitoring system during metal forming operation that will detect

defects

- Investigated possibility and feasibility of using force transducers with signature analysis during punching and blanking operations
- Designed machinery used throughout the world
- Traveled throughout the world supervising the installation of machinery and entire production lines
- Assisted all departments and plants all over the world in sensor selection, instrumentation design, embedded microcontroller or processor design, PLC selection/design, fixturing and locating sensors, analyzing if results will be positive, doing computations and statistics, directing programmers or actually doing programming myself in a full array of computer languages.

1992–1995      Siligan / White Cap, Inc. (Continental Can)      Chicago, IL

*Project Engineer*

- Responsible for integrating sophisticated instrumentation into industrial machinery. Used for quality production as well as research. Each instrument contained custom embedded microprocessors.
- Designed and installed a \$3 million completely PLC controlled production line
- Designed as well as conducted several statistical Design of Experiment (D.O.E.) experiments to solve production problems
- Installed, modified, and troubleshot machinery and equipment in plants all over the world
- Took over management of mainframe CAD system as well as office computer network
- Took over design of in house vision inspection equipment as well as outside designed systems
- Assisted plants in debugging automation equipment that utilized PLC's, microprocessors, and computers.

1988–1992      Data Weighing Systems, Inc.

Elk Grove Village, IL

*Engineer*

- Was the only engineer / technical person on staff in a small company, therefore, exposed to many different aspects of engineering
- Designed entire projects from initial sales call to conceptual ideas to final production. This involved my dealing with customers as a salesperson
- Involved in creating initial proposals that required estimating time & materials
- Laid out and integrated entire systems
- Designed custom boards and chips that would integrate with other vendor's boards and devices. In doing so, I was extensively involved in dealing with and tracking vendor's progress and specs.
- Managed entire projects from start to finish. This could not be possible without setting and keeping deadlines

- Coordinated with technicians and a lot of times I did the actual installations myself of complex, integrated systems
- Wrote or managed all of the software written in many different languages including assembler, 'C', Pascal, dBase, and Forth
- Was service department's technical advisor which required me at times to do the actual service myself on the bench or in the field. I own all of my own tools.
- Provided the customer assistance and training. Troubleshooting over the telephone with customers was another aspect of being the technical person in charge
- Designed and ran technical training sessions for the technicians
- Designed systems that included integrated force or weight transducers, computers, PLC's, vibratory feeders, conveyors, and mechanical assembly lines
- Examples of designs included:
  - Networked stations with pneumatically accepted or rejected parts based on their target weight
  - Numerous box filling applications utilizing vibratory or conveyor feeders
  - Computers linked to PLC's
  - Intrinsically safe designs and wiring
  - Custom embedded micro-controller boards

## EDUCATION

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|---|--------------|
| Northwestern University   | Evanston, IL |
| <ul style="list-style-type: none"> <li>■ Full Stack Web Developer certificate</li> <li>■ Front end included HTML, CSS, BootStrap, JQuery, and Javascript</li> <li>■ Backend Node JS, React, Mongo DB, MySQL, Python, and other packages.</li> </ul> |              |
| Northwestern University   | Evanston, IL |
| <ul style="list-style-type: none"> <li>■ Completed Mobile Programming classes</li> <li>■ Included graphics arts and user interface classes.</li> </ul>  |              |
| General Assembly  | Evanston, IL |
| <ul style="list-style-type: none"> <li>■ Google Analytics class on internet data collection techniques</li> <li>■ Android programming class</li> </ul>  |              |
| Lean Startup Institute  | Chicago, IL  |
| <ul style="list-style-type: none"> <li>■ Lean techniques and specifically started companies using lean methods</li> <li>■</li> </ul>  |              |
| University of Illinois at Chicago   | Chicago, IL  |
| <ul style="list-style-type: none"> <li>■ B.S. Electrical Engineering.</li> <li>■ Additional course work in mechanical engineering and applied math</li> </ul>   |              |
| Dorian Shanin   | Chicago, IL  |
| <ul style="list-style-type: none"> <li>■ Personally taught by the "Father of six sigma"</li> <li>■ Completed studies on Design of Experiments and statistical engineering</li> </ul>  |              |

William Rainey Harper College

Palatine, IL

- Beginner's Guide to Developing New Products and Services
- 0.30 continuing education credits
- covered patent search, patents, trademarks, & copyrights

Wayne State University/Roosevelt University Chicago, IL

- Starting Your Own Small Business
- 16 week class offered thru Roosevelt University's continuing education department
- Covered every aspect from marketing to sales to book keeping to financial statements

William Rainey Harper College

Palatine, IL

- Course work to transfer to a four year institution.

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#### PROGRAMING LANGUAGES I PROGRAM IN

Front end: HTML/CSS, JQuery, Javascript, BootStrap, React

Back end: Node JS, React, Python

Embedded boards: C, Assembler, Python

Mobile: Java, Javascript, Objective C, Xamarin

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#### INTERESTS

Wood working, auto engine overhauling, auto racing, metal machining, & volleyball.