

IVON CULLUMBER

Smithfield, UT 84335 | <https://icullumber.com>

Professional Summary

Seasoned engineering professional with 20+ years of experience leading multidisciplinary projects across mechanical, electrical, and software domains. As Head of Engineering at Quilt-EZ, directed the development of globally deployed long-arm quilting robotics and sewing machine control systems. Combines deep technical expertise—including electronic design, PCB layout, embedded systems development and programming, 3D mechanical modeling, GUI development, and Android app programming—with practical leadership in product development and innovation. Also supported critical IT infrastructure, managing internal systems such as servers, online phone networks, and security tools to ensure reliable operational support. Known for delivering robust, user-centered solutions that merge engineering precision with real-world performance.

Work Experience

Head of Engineering *Quilt-EZ, LLC*
January 2008 – April 2025

- Created embedded motion control systems for X/Y gantry movement using BLDC servo motors and stepper motors that automate the stitching of intricate patterns for custom quilting applications.
- Developed and implemented graphical user interfaces for Linux/Android embedded devices in order to give users visual control and feedback from the embedded motion control systems.
- Designed hardware and software to precisely control motor velocity in long-arm sewing machines that produce an accurate number of stitches per one inch of stitching.
- Designed mounting solutions for motion control robots adaptable to various consumer products.
- Managed IT infrastructure, including server setup and maintenance, network administration, databases, and PBX systems.
- Oversaw accounting functions, including financial reporting, software management, and inventory management.
- Designed and maintained company websites using custom WordPress, WikiMedia and 3rd party bug-tracking software instances.

Software Programmer *Design Analysis and Associates*
September 2004 – January 2008

- Collaborated with electrical engineers to develop data logging products for environmental applications.
- Designed graphical user interfaces for data collection, maintenance, and interpretation related to waterway systems.

Key Skills

- Electronic circuit design
- Schematic Capture
- PCB Layout
- SMT Population, Auto and Manual
- Oscilloscope, DMM, Soldering, Rework
- Programming in C, C++, Java, C#, Python, HTML, PHP, SQL, Basic, G-CODE, QT/QML
- Desktop, Mobile, Web, and Embedded Programming
- 3D Mechanical Design
- Machining with CNC, Manual Mill, Lathe, Box and Press Brakes
- 3D Printing
- Information Technology Management
- MIG/TIG Welding

July 2014 – Present

- Developed electronics and firmware for digital stethoscope to be used by expecting mothers, complete with programmable audio codec that allowed the user to filter captured audio frequencies and isolated individual sounds.
 - Built custom CNC machinery to produce prototype and production parts for various clients.
 - Built custom SMT pick and place machine for prototyping and small runs of PCB assemblies, using the OpenPNP platform.
 - Set up a small 3D printer farm that has been used for both prototyping of product concepts and production of consumer goods.
 - Other services include multi-camera webinar production, audio voice over, and other A/V recording capabilities.
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Education

Bachelor of Science in Computer and Electronics Technology

*Utah State University**Graduated: 2004*

- Minor in Computer Science
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Additional Skills

- **Software & Tools:** SolidWorks, Fusion360, AutoCad, Altium, QuickBooks, Wave, MS Office (Word, Excel, PowerPoint, Access), 3D Slicers, Inkscape, GIMP, General knowledge of AI systems and application.
 - **IT & Networking:** Mainframe Server Setup, PBX Systems, Networking Hardware Installation, IT Maintenance
 - **Accounting:** Financial Reporting, QuickBooks, Wave Financial Software, Profit and Loss Reports, Balance Sheets, Cash Flow Statements, Company Profitability Assessment, Inventory Management
 - **Other Skills:** Electronics Troubleshooting, Data Analysis, Data Presentation, Motion Control, Web Design, Database Management, Touch Typing (44 WPM), Written and Spoken Communication, Audio/Video mixing and production, Voice-over, and musical performance
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Languages Spoken

- English
- Tagalog