

Tracy Eliasson

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SUMMARY

Applies systematic thinking relative to system architectures and linkages between various subsystems including both mechanical and electrical. Proficient in image and signal analysis. Builds models to look at data from views not previously considered. Enjoys customer interaction in the form of presentations as well as side by side problem solving.

- Systems Modeling
- Inventor
- Pattern Recognition
- Algorithm Design
- Digital Filters
- Tolerance Analysis
- X-Ray Imaging
- Tomosynthesis
- MATLAB

EDUCATION

Masters of Science, Electrical Engineering, December 2008

University of Colorado at Boulder, Attended as Agilent Technologies Resident Fellow

Coursework emphasis in DSP including: Information Theory, Theory and Design of Digital Filters, DSP Laboratory, Cryptography, Machine Learning, Flow Visualization, Noise and Random Processes, Data Networks.

Bachelors of Science, Mechanical Engineering

University of Colorado at Boulder

PROFESSIONAL EXPERIENCE

Agilent Technologies

1999 – 2009

Hardware Design Engineer

- Collaborated with software engineering to implement timing instructions for 19 subsystems resulting in image acquisition from 14 cameras with positioning errors smaller than 50 microns and data rates of 320 MB/second.
- Observed similarities between a key metric of Information Theory and a needed metric for optimal camera angles resulting in an accurate measure for system optimization.
- Implemented a hardware based regression test to ensure smooth integration of software changes, thereby resulting in an 80% uptime improvement for critical hardware.
- Reduced ball grid array (BGA) escaped opens by 80% by recognizing a pattern within the data which was previously considered noise.
- Invented new imaging technique to minimize image artifacts which resulted in customer acceptance of new system and enabled first system sale.
- Built a model to map mechanical uncertainties to image MTF resulting in efficient mechanical design of new imaging system.

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Technical Marketing Engineer

- Created software to mine manufacturing data at a customer site which enabled customer to increase test effectiveness by 35%.
- Researched and co-authored a study to prove the link between x-ray test and reduction of field failures resulting in publication reaching 40,000 readers within our target market.

Hewlett Packard Company

1997 – 1999

Structural Process Test Engineer

- Originated data-driven process for false-call reduction in x-ray inspection test and repair cell resulting in a 30% reduction in false call rates.

Process Development Engineer

- Eliminated nitrogen usage in four of eight reflow oven chambers to save \$10K per month without compromising product quality.
- Qualified a single solder paste to replace multiple formulations which had been necessary, resulting in a simpler process with fewer errors and higher overall quality.

HONORS

Agilent Resident Fellow

2007 – 2008

Received Fellowship award which enabled investment of twelve months to sharpen my engineering skills by completing a Masters of Science in Electrical Engineering with emphasis on digital imaging systems.

PATENTS

- US Patent Number 6,847,900 “System and Method for Identifying Solder Joint Defects”
- US Patent Number 7,384,193 “Method of Relocating the Range of Focus in a Line Scan Camera Having Time Domain Integration Image Sensors”
- US Patent Number 7,309,161 “Method for Determination of Magnification in a Line Scan Camera”
- US Patent Application Number 10,651,667 “System and Method for Performing Auto-Focused Tomosynthesis”
- US Patent Application Number 11,548,606 “Artifact Reduction in an X-Ray Imaging System”
- US Patent Application Number 11,145,073 “X-Ray Inspection System Having On Axis and Off Axis Sensors”