

Alexander James Kurrasch (alex.kurrasch@gmail.com)

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Citizenship

United States citizen.

Education

Michigan Technological University, Houghton, MI, USA
Bachelor of Science in Electrical Engineering (June 2006)
Minors in Mathematics and Physics

Relevant Coursework Including:

Wavelet Analysis	Digital Signal Processing
Nonlinear Dynamics	Partial Differential Equations
Numerical Methods for PDEs	Analog Electronics Design
Advanced Electromagnetics	

Employment

Burke E. Porter Machinery Co., Grand Rapids, MI, USA **Jun 2017 - Current**

Software Engineer - Non-Contact Alignment Group

- Design of closed loop control systems integrating computer vision and robotics in C++.
- Experience with PLC interfacing and FANUC 6-axis robot programming.
- Refactoring of legacy code to incorporate new functionality.

Electromagnetic GeoServices, Trondheim, Norway **Jan 2014 - Aug 2016**

Scientist - Signal Processing

- Manager of a project focusing on Digital Signal Processing (DSP) methods for deconvolution.
- Development of C++ code for spectral estimation techniques.
- Optimization of legacy High Performance Computing (HPC) C++ DSP codebase.

Electromagnetic GeoServices, Trondheim, Norway **Jan 2008 - Jan 2014**

Senior Development Engineer

- Development of custom DSP hardware using Xilinx Zynq SoC and 1Gbps Ethernet.
- Hardware development of ultra-low power mixed-signal data logger systems for sub-sea use.
- Development of a remote embedded real-time data processing system with satellite uplink.
- Design and implementation of DSP algorithms for embedded systems in C, Assembly, and VHDL.
- Oversight of prototype PCB layout and production.

Electromagnetic GeoServices, Trondheim, Norway **Aug 2006 - Dec 2007**

Field Geophysicist

- Initial processing & quality evaluation of Controlled Source Electromagnetic (CSEM) data.
- Development of software for quality control of CSEM data.
- Documentation of procedures and software.

Additional Technical Experience

Personal Projects

- Development of an audio amplifier using the high power GU-81M tube.
- Development of an octal desk clock based on color addition.

Activities

- Helmsman on a 5 crew member sailing team.

Languages & Technologies

Devices: AVR8, AVR32, Xilinx Zynq, Xilinx FPGAs & CPLDs
Languages: Frequent use: C++, C, Python, Matlab
Experienced: Assembly (68k, AVR8, AVR32), VHDL, Java
Software: Windows, Linux, GDB, SVN, IAR studio, Xilinx ISE, SPICE, Schematic and PCB Design (Mentor Graphics, KiCad).
Lab Equipment: Oscilloscope, Logic Analyzer, Vector Analyzer, Dynamic Signal Analyzer, SMT soldering.