Chris M. Hodapp

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Experience

- *Independent Contractor*   2015 – present
  - Designed electronics and firmware for Losant's IoT platform (STM32 and Intel Edison)

- **Urbanalta Corp.**   Cincinnati, OH
  Design Engineer   2013 – 2015
  - Designed and implemented a low-power embedded system based on Nordic nRF51822; this managed battery power, monitored sensors, and communicated with other components via Bluetooth Low Energy
  - Managed C & Haskell embedded software for this, including custom Haskell libraries to assist with real-time and asynchronous tasks in C code and to adhere to a BLE protocol
  - Worked with Maxim Integrated on an experimental time-of-flight ultrasonic sensor
  - Supported other engineers in data modeling, interface design, data analysis, and visualization

- **Etegent Technologies Ltd. (formerly Sheet Dynamics Ltd.)**   Norwood, OH
  Research Engineer   2008 – 2014
  - Wrote reports on research and proposals for SBIRs and other grants
  - Worked with a development team on the design, development, and testing of NLign, Etegent's enterprise system for inspection data management in aircraft NDE – mainly in C & C++ with Qt and Java EE
  - Performed computer vision research - 3D reconstruction, SLAM, calibration, and resectioning
  - Collaborated with Mechatronics Lab at Virginia Tech on prototype for inspecting aircraft serpentine ducts; this produced real-time dense 3D models, registered photographs to it, and presented this data to NLign
  - Performed computer simulations of LADAR systems for a research proposal
  - Prototyped a CUDA-based system for real-time GPU-based filtering of 250 megasamples/second data.

- **Valco Cincinnati**   Cincinnati, OH
  Electronics Co-op   2007 – 2008
  - Assembled, designed, and prototyped electronics for Valco's lines of industrial adhesive equipment
  - Developed C and VHDL software for the PLDs and microcontrollers powering their electronics
  - Created documentation and fabrication and assembly drawings for production and inventory.

Education

- **Georgia Institute of Technology**   Atlanta, GA
  College of Computing, M.S. Computer Science   2015 – present (expected graduation 2017)
  - Specialization in Machine Learning; 4.0 GPA

- **University of Cincinnati**   Cincinnati, OH
  College of Engineering, B.S. Electrical Engineering with Mathematics Minor   2005 – 2010
  - Graduated Magna Cum Laude with 3.83 GPA and Distinguished University Honors Scholar

Core Technical Skills

Languages & Libraries: Haskell, C/C++, R, Scala & Apache Spark, Python (NumPy, SciPy, sklearn, Pandas), JavaScript/Node.js, Java, Clojure, Lisp, MATLAB, SQL, bash, LaTeX

Software & Tools: Linux & UNIX, AutoCAD, EAGLE, KiCad, git, Subversion, Eclipse, Visual Studio

Electronics: PCB design and production, embedded development (ARM Cortex, ESP8266, Edison, STM32, MSP430)

Data Science: Data analysis and visualization with R, NumPy, matplotlib, OpenCV, VTK, and MATLAB

Other

- Founding member of Hive13, a makerspace in Cincinnati
- Co-founder of Haskell Embedded blog, a resource for the use of Haskell in embedded systems
- Portrait and landscape photography, alternative photography processes (e.g. cyanotype)