Ivar Thorson, Ph.D.

OBJECTIVE

A research- or senior-level position in software development, preferably with a focus on machine learning, algorithm design, or data science.

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SKILLS

CODE	From A-Z: Bash, C, C++, Clojure, Clojurescript, Common Lisp, Emacs Lisp, Git, HTML/CSS, Java, Javascript, MATLAB, Perl, Python, NoSQL (Cassandra), SQL (MySQL), REST-ful APIs, various assembly languages and buildscripts
SYSTEMS	Linux systems, GNU toolchain, Eclipse, Emacs, JVM ecosystems, AWS (especially EC2, S3), Cassandra, OpenShift, and map-reduce on various clusters
MATH	Bayesian statistics, digital filtering and signal processing, machine learning, Markov-chain monte-carlo (MCMC), model-based control, rigid body dynamics, wavelets, and always linear algebra + differential equations
ELEC.	EDAs (Cadence, ISE/Vivado, OrCAD, Eagle), HDLs (Verilog, VHDL), FPGAs (Lattice, Xilinx), SMT rework, BLDC motor design, motor control power electronics design, inductive sensor design
MECH.	Solidworks, ProEngineer, Machining, G-code, CNC programming, CNC conversions, manual lathe, manual mill, fiber-reinforced polymers (FRP) and monocoque composite construction techniques
LANG.	English (Native Speaker), Japanese (JLPT Lvl. 1), Italian

EXPERIENCE

Senior Research Developer — 2014 – 2017
Whibse, Inc. & LegitScript, Inc.

Research Software Developer — 2012 – 2014
Oregon Hearing Research Center
Oregon Health & Science University

President, Founder — 2013 – PRESENT
Octopus Robotics, Inc.

Adjunct Prof. of Electrical Engineering — 2013
Portland State University, USA

Post-Doctoral Fellow — 2012
Istituto Italiano di Tecnologia, Italy

Visiting Researcher — 2010
Dept of Brain-Machine Interfaces,
Advanced Telecommunications Research Center,
Japan

Electrical Engineer — 2005
Mod Systems / A Dot Corporation, USA

EDUCATION

2009 – 2011	**Ph.D. Advanced Robotics**	*Istituto Italiano di Tecnologia*
2005 – 2008	**M.S. Mechatronics**	*Nagoya University, Japan*
2000 – 2004	**B.S. Electrical Engineering**	*University of Washington, USA*

REPRESENTATIVE PUBLICATIONS

THORSON, I. LIENARD, J. DAVID, S. The Essential Complexity of Auditory Receptive Fields. *PLOS Computational Biology, 2015.*

THORSON, I. A Hopping Monopod Robot Incorporating Nonlinear Series Elastic Actuators, Fiber-Reinforced Polymer Construction, and a Concurrent Asynchronous Dataflow-based Centroidal Momentum Balance Controller. *Ph.D. Thesis, Istituto Italiano di Tecnologia. 2012.*

THORSON, I. CALDWELL, D. A Nonlinear Series Elastic Actuator for Highly Dynamic Motions. *IEEE International Conference on Robotics and Automation, San Francisco, USA. 2011.*

PATENTS

US	2013/0074,635: Elastic Rotary Actuator
ITALY	#TO2011A000848: Attuatore Rotante Elastico con Meccanismo Ipocicloida

SCHOLARSHIPS

2005-2008 Full-ride MEXT Japanese government scholarship for research students.