

Eiki Martinson

URL: <http://eikimartinson.com>

I am a mechanical and electrical engineer with experience in hardware design and software development; a history of successful interdisciplinary projects; strong written, visual, and verbal communication skills; and a passion for getting the details just right.

Skills

Industrial design, embedded systems development, PCB layout, sheet metal design, injection molded part design, EMC and product-safety compliance, telecommunications and networking, sensors and data acquisition, robotics, machining and fabrication, web development, LAMP server administration, graphic design. Fluent in Estonian.

ENGINEERING APPLICATIONS

SolidWorks, Cadsoft EAGLE, MATLAB and GNU Octave, various versions of SPICE, LabVIEW, Pro/ENGINEER

EMBEDDED PLATFORMS

Atmel AVR, ARM, Microchip PIC, Freescale 68K derivatives

SOFTWARE AND WEB DEVELOPMENT

JavaScript and jQuery, HTML, XML, CSS and SASS, C, PHP, Perl, Assembly, SQL, git, svn, SCons

DESIGN TOOLS

Adobe Illustrator, Photoshop, and InDesign; L^AT_EX; Google Sketchup

Experience

CBM OF AMERICA, INC.

2008–PRESENT

Research & Development Engineer

Develop and support products for telecommunications companies such as Verizon, AT&T and BellSouth, including terminal servers, protocol converters, telemetry devices, optoisolators.

- Design circuits featuring microcontrollers, IP and serial communications, power electronics
- Layout printed circuit boards
- Design enclosures, accessories, structural parts in sheet metal
- Design plastic enclosures for injection molding
- Travel to customer data centers and central offices for troubleshooting
- Write firmware for embedded systems in C, assembly
- Responsible for EMC, NEBS, UL testing and certification
- Develop customer web portals, web-based administration interfaces for devices, other web applications
- Create manufacturing drawings, product silkscreens and labels, user documentation, presentation artwork

FLORIDA ATLANTIC UNIVERSITY, DEPARTMENT OF ELECTRICAL ENGINEERING

2005–2007

Research Assistant, Principal Investigator: Dr. Daniel Raviv

Developed a new method of efficient water desalination using low-pressure distillation.

- Constructed a fully-instrumented three-story-tall experimental apparatus

- Implemented a data acquisition and control system using LabVIEW, PC-based DAQ hardware, sensors to measure pressure, temperature, flow
- Designed experiments to verify performance, investigate problems such as non-condensable gas accumulation
- Presented results in papers and at international conferences

CARBIDE COMPUTER CONSULTANTS

2005–PRESENT

Founder

Co-founder of I.T. consulting firm for small business clients.

- Manage finances and marketing
- Develop custom web applications
- Administer UNIX web and mail servers
- Build and maintain Ethernet and wireless networks
- Install and administer video surveillance systems

FLORIDA ATLANTIC UNIVERSITY, CENTER FOR APPLIED STOCHASTIC RESEARCH

2001–2002

Research Assistant, Principal Investigator: Dr. Tsung-Chow Su

Contributed to fluid dynamics research in the topics of boundary-layer separation and junction flows using the University's water channel facility.

- Built instrumentation, test models, positioning fixtures in metal and plastic
- Operated still and video cameras to document results
- Designed a 300 volt pulse train generator to drive hydrogen bubble flow visualization apparatus

Education

FLORIDA ATLANTIC UNIVERSITY

FALL 2010

M.S. in Electrical Engineering with Thesis

- National Inventor's Hall of Fame Collegiate Inventor's Competition finalist, 2006 (desalination method)

FLORIDA ATLANTIC UNIVERSITY

SPRING 2004

B.S. in Electrical Engineering, B.S. in Mechanical Engineering; Magna Cum Laude

- Tau Beta Pi engineering honor society
- Outstanding Senior Design Project award (pipe-inspection robot)
- Department of Mechanical Engineering's Outstanding Achievement award
- Acted as guest lecturer in Statics and Strength of Materials courses for traveling professors
- Organized (with student chapters of IEEE and ASME) a seminar series in practical engineering skills to help prepare students for senior design projects; delivered two seminars

Selected Publications

E. Martinson, "Barometric distillation and the problem of non-condensable gases," master's thesis, Dept. Computer & Electrical Engineering and Computer Science, Florida Atlantic University, Boca Raton, Florida, USA, 2010.

B. Moore, E. Martinson, D. Raviv, "Waste to water: a low energy water distillation method," *Desalination*, vol. 220, pp. 502–505, 2008.

E. Martinson, M. Miller, S. Wasi, "Improvements in the design of pipe inspection robots," *2003 Florida Conference on Recent Advances in Robotics*, Fort Lauderdale, Florida.