STEPHAN BOYER

stephanboyer.com
boyers@mit.edu

Education

Massachusetts Institute of Technology
B.Sc. Electrical Engineering and Computer Science in 2013

Coursework – Artificial Intelligence, Parallel Computing, Probabilistic Systems Analysis, Software Construction, Computation Structures, Algorithms, Discrete Mathematics

GPA 4.4/5.0

Work Experience

Research Assistant *2011 - present*
The Julia Project, MIT CSAIL

- Designing a high-performance programming language for scientific computing
- Implemented a web-based REPL interface
- Designed a course website

Software Engineering Intern, Panjiva *Summer 2011*

- Designed several pages and backend services
- Developed a new online dashboard for Panjiva users
- Implemented a verification layer on top of subversion to improve site stability

Hardware Architect *Fall 2010 - Spring 2011*
Innovations in International Health

- Developed *CoolComply*, an award-winning solar powered refrigeration device for storing and monitoring MDR-tuberculosis medication
- Designed a two-tire protocol formicro controller communication

Computer Vision Researcher, UCF *Summer 2010*

- Developed a baseline system for classifying video sequences of human actions
- Investigated feature description by shape context and Gabor filter response

Rapid Prototyping Researcher, MIT Media Lab *Spring 2010*

- Designed and implemented a tabletop display which simulates a location-based 3D perspective
- Developed a digital sculpting solution integrating computer models with physical gestures using motion capture technology

Research Assistant, Remote Sensing Systems *Summer 2009*

- Implemented an animation delivery service as an alternative way to view geophysical products using Google Earth (http://remss-kml.com)

Skills

Fluent – C, C++, Python, Java, JavaScript, HTML 5, CSS 3, Julia, Processing (Arduino)

Familiar – Haskell, Ruby, LaTeX, PHP, MATLAB, C#, D, Scheme, Basic, Ruby on Rails, Git, Subversion

Extensive experience with AVR micro controllers (C) and the Arduino Platform (Processing)

Machine tools, MIG welding, soldering

Selected Personal Projects

Web-based Mandelbrot fractal renderer

3-D rendering engine

Multithreaded SCGI server

Music descriptor language and compositional environment

Musical key finder with chord suggestions

Hexapod robot involving inverse kinematics and motion planning

Human-operable electric self-balancing unicycle

Awards and Recognitions

1st Place, MIT's Web Programming Competition (6.470)

Self-balancing unicycle featured on *Engadget*, *Hack a Day*, *Ubergizmo*, *PhysOrg.com*, *Softpedia*, *BostInno*, *Gizmowatch*, *New Rising Media*, *DVICE*, *The Huffington Post*, et. al.

CoolComply device (IIH) won a $100,000 Harvard Catalyst Pilot Grant

3rd place, MIT's Autonomous Robot Design Competition (6.270)