

# Lening Li

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## OBJECTIVE:

**Full Time Job in Computer Science or Robotics**

## EDUCATION:

**Harvard University (Harvard Extension School)**, Cambridge, MA  
**Student in Computer Science**, GPA 4.0/4.0 August 2015

**Worcester Polytechnic Institute (WPI)**, Worcester, MA  
**Master of Science in Computer Science**, GPA 3.33/4.0 May 2016

**Harbin Institute of Technology (HIT)**, Harbin, China  
**Bachelor of Engineering in Computer Science**, GPA 3.55/4.0 July 2014

**Related Courses:** Operating System, Computer System Architecture, Algorithms: Design and Analysis, UNIX Network Programming, Software Engineering, Fundamentals of Compiling, Information Security

## SKILLS:

**Programming Languages:** Python, C, C++, C#, Java, Java Script, Verilog, Assembly, VB Script, SQL, HTML5, Visual Basic, XML, CSS

**Operating Systems:** Windows 7, OS X, Linux, ROS, UNIX

**Applications:** Matlab, Microsoft (Word, Excel, PowerPoint, Access), PowerBuilder, Android Studio, SQL Server, Eclipse, Visual Studio, QT Creator, Git, SVN, IxChariot, Open Rave, Gazebo, Dreamweaver, Vim, Modalism

## EXPERIENCE:

**Software Engineer Intern**, Tewksbury, MA, USA, June-September 2015

Helped to migrate code and history from several version control systems on various operating systems to Perforce. Programming on Starteam Java API and Shell command line to checkout and checkin the code. Assisted to fix bugs and improve performance of the software using C++ and C#. Collaborated with people from MA, TX, MN and also Tianjin in China.

**Software Engineer Intern**, Neusoft, Dalian, China, June-August 2013

Designed a map management system with a team of six people using C. Transformed the original data into a binary type to store and achieve some operations on the data. Created system that is able to insert, search, edit and delete data. Collaborated with one person from Neusoft and four people from Harbin Institute of Technology.

## PROJECTS:

**Personal Website**, Harvard, August 2015

Implement Java Script, CSS, HTML5 and some additional libraries to build a personal website (<http://lening.li>). Tried Google Map API to show places I have been to and Swipe Box to show daily photos. Rent a shared host called Dreamhost to make my personal website public.

**DARPA (Defense Advanced Research Projects Agency) Robotics Challenge**, WPI, September 2014-June 2015

Assisted with programming Atlas robot to complete different tasks using C++, Qt creator and Eclipse, including walking on a terrain without falling, driving a car and getting out of the car. Developed a software system to manipulate the robot. Collaborated with four people from Carnegie Mellon University and seven people from WPI.

**Motion Planning: Constrained Step Planning Applied to the ATLAS Robot**, WPI, April-May 2015

Studied step planning for humanoid robot. Enhanced the strategy which handles the Atlas robot to go through the door, which constrain the hand to a desired position solved by inverse kinematics and A\* search algorithm in C++

and OpenRAVE 0.9. Illustrated the effectiveness of this strategy applied to the Atlas robot in the simulation.

**Artificial Intelligence: Basketball Training System**, WPI, November-December 2014

Implemented Artificial Neural Networks using Visual Studio 2010 to simulate basketball players in real world situations. Programed players to make reasonable decisions to improve their performance. Created a program in Python to automatically generate training data.

**Research on Image Compression Based on Contourlet Transform**, HIT, December 2013-June 2014

Implemented an image procession method called Contourlet Transform to dramatically compress the image and has little effect on the equality of the image in Matlab. Analyzed the way to separate the image and design an new equation to process the raw split image. After compressing the image, applied Encoded Run Length Coding to further compress the image.

**Electrical Commerce**, HIT, June-July 2013

Designed a cosmetics electrical commercial website using ASP and VBScript. Inserted pictures to show products and gave text that briefly introduce the information of those products. Added a chart to help customers to add, delete goods and finally checkout to pay. Developed a membership management system to manage information of membership.

**Intrusion Detection**, HIT, June-July 2013

Applied a simple firewall using Libnet on the Ubuntu system to detect and catch the content of the data packages contain some sensitive words and information. Created code to alarm user of the intrusion. Implemented XML to store all the key words and features that help to detect the sensitive package and filter them.

**Cryptography**, HIT, January-February 2013

Improved the process of DES encryption method. Implemented DES to encrypt a grey picture in C++ and Visual Studio 2010. Encoded Run Length Coding to compress the binary data in DES encryption. Transfer the encryption key into binary data and store it in a text file. Applied the inverse process to decompress and decrypt the picture without losing any resolution.

**MIPS Processor Design**, HIT, April-May 2012

Designed a MIPS (Million Instructions Per Second) chip using Verilog HDL in Modelism to realize 32 instructions. Simulated how to realize add, subtraction at el. on a chip. Demonstrated the correctness of this design with 10 instructions. Implemented this design on the Xilinx FPGA.

**Database Management**, HIT, April-May 2012

Combined PowerBuilder and Microsoft SQL server 2008 to develop a Human Resource Management system. Programed to realize add, insert, delete, edit and search the information.

**Restaurant Order System**, HIT, January-February 2012

Developed a restaurant order system to help the restaurant to improve efficiency and decrease cost of labor with C++ and Visual Studio 2010. Ordering with iPad customers are able to order and the restaurant can receive the order nearly the same time. Assisted the deliverymen to search the shortest way to make a deliver and display the way on the map.

**ADDITIONAL EXPERIENCE:**

**Volunteer Teacher**, Lasa Welfare Center for Children, Tibet, China, August-September 2013

**AWARDS:**

**Excellent Graduate** (Academic Achievement and Involvement), HIT, China, July 2014