Chaitanya Bhargava

Electrical Engineer - Olive Labs Philadelphia

Philadelphia, PA - Email me on Indeed: indeed.com/r/Chaitanya-Bhargava/6ccc9f0f44dc3b0e

WORK EXPERIENCE

Electrical Engineer

Olive Labs Philadelphia - Philadelphia, PA - February 2014 to Present

Aid in the development of our functional electrical, help out in the design and tuning of sensors, electrical components selection, and layout of future printed circuit boards.

Teaching Assistant

Dept of Mechanical Engg and Applied Mechanics University of Pennsylvania - August 2013 to December 2013

Repair the erroneous PUMA 260 robot, including redesigning its amp board, debugging the electrical issues and reconfiguring its gains.
Also designed PCBs for use in the course and held regular TA hours to help out students.

Little Prince - September 2013 to November 2013

Designed "The Fox". A multi-legged tapping robot as part of a musical performance featuring Grace Kelly on Jazz and a number of other
robotic instruments.
• Made a new wireless Zigbee module to work with the college custom M4 micro-controller for the performing robots

Member of team placed

Machine Learning University of Pennsylvania - September 2013 to November 2013

5 /50 in the course achieving minimum error in predictions of restaurant ratings, given yelp data. Implemented th

a combination of methods like SVM, logistic regression, Naïve Bayes etc.

Research Assistant, Modlab

University of Pennsylvania - July 2013 to August 2013

Calculated the inverse kinematics of a six dof robotic arm as a part of the Persona tele-presence robot project and designed a controller for its arm, the mast and the screen pan and tilt.

Transformer, University of Pennsylvania - March 2013 to May 2013

Worked in a team of 4 to design the circuitry for a 4 legged car-to-puma transforming robot.
• The joints were actuated using a mechanism similar to the 4 bar linkage with wire and drum for transmission in the PHANTOM haptic
device and positions feedback was done using mechanical encoders.
Robockey 2012 University of Pennsylvania Fall 2012
• Designed a team of 3 mobile robots to play hockey in a 230cm by 120cm field, completely wirelessly. The localization of the robots was
done using Modules used in the Nintendo Wii Remote (mWii IR Blob Tracker).

• Programmed ATMEGA32U4 micro-controller in C using Flip to flash it. This was also connected to an RF wireless module for wirelessly
giving the play, half-time, goal etc. commands.

Made a peripheral for the university custom micro-controller

University of Pennsylvania - March 2013 to March 2013

Spring 2013
• Designed a laser range finder based on the OVM 7690 camera cube module using the STM32F373CC, without storing the whole image and completing calculation within the external interrupts for the max value.
Microcontroller Peripheral (mVoice), University of Pennsylvania Spring 2013
• Made a peripheral for the university custom micro-controller, the M4 using the ADMP 441 to record audio data via Philips i2s interface.

(PID controller Self Balancing robot), University of Pennsylvania

The Acrobat - September 2012 to November 2012

Worked in a group of 4 to design a robot capable of balancing itself on 2 wheels. The inertial reading of the robot was taken using a 9
degree of freedom IMU peripheral to the micro-controller. The readings of gyroscope and accelerometer were taken passed through a
low pass filter and a PID controller was used to keep it stable at zero configurations.
CREDENTIALS/ACTIVITIES

Captain

College Soccer Team New Delhi - New Delhi, Delhi - September 2011 to May 2012

Lead the college team to numerous inter college events. Won first prize at many events as a member of the team.
• Organized a street soccer event within the college.

Organizer - New Delhi, Delhi - March 2012 to March 2012

March 2012
• Worked in a team to successfully organize a three day inter-college debate with participation from over 20 colleges.

Intern

Mahindra Navistar Automotives Limited Pune - June 2011 to July 2011

Worked in the CAE department understanding the role of Finite Element Analysis in the industry and the tools used to implement it.
Worked in Hyperworks 10, an industry level analysis tool with Radioss as solver. Completed a case study on the Durability Analysis of an
Air Tank mounting bracket in a 3.3L Mining Tipper.
TECHNICAL SKILLS
• Mechanical Engineering Software: SolidWorks, Catia, Hyperworks, Abaqus CAE, Eagle 6.4.0, Comsol Multiphysics.
• Programming Languages: C, C++, Matlab
• Microcontroller Communication: Visual Studio, Flip, Terminal for Windows, Matlab, Linux Commands
• Workshop Tools: LPKF ProtoMat S62, Laser cutter, Lathe, Milling Machine, Radial Drills, Belt Sander, Grinder, Power Hacksaw
ROBOTICS PROJECTS

EDUCATION

Bachelor of Engineering in Mechanical Engineering

University of Delhi, Delhi College of Engineering New Delhi - Delhi, Delhi
June 2012

Master of Science in Mechanical Engineering

University of Pennsylvania, School of Engineering and Applied Science Philadelphia - Philadelphia, PA
April 2000

LINKS

http://www.seas.upenn.edu/~cbhar