

Summary

Proficiency in **C/C++**, **C#**, **Java**, **MATLAB**, **Bash Scripting** • Database knowledge on **Oracle**, **MySql**, **MsSql**, **PqSql** • **PIC** firmware experience with **MikroC** • **Linux** experience • **#1 grad** of MCH • **3D CAD** experience with **SolidWorks** • Able to use **VS 2005-2008**, **JDeveloper**, **Eclipse**, **Qt** • Able to use **HALCON** • Digital design experience with **Verilog**, **Xilinx Tools**, and **Modelsim** • Knowledge on **Siemens S7-200**, **Delta PLC** and **Delta Operator Panel**

Education

MS, February 2011 - Ongoing, Electrical & Electronic Engineering, **Boğaziçi University**, İstanbul

BS, June 2009, Mechatronics Engineering, **Bahçeşehir University**, İstanbul, GPA: **3.33** out of 4.00

Graduation Project: Emulation of PIC based Elevator Control with Mechanical Virtualization on PC over RS-232 and OpenGL.

Projects

Face Recognition-based IMDB Plug-in for Movies, October - December 2010: Project of Content Based Image and Video Retrieval course. Program coded in Visual C++ using **OpenCV 2.2**. It recognizes the celebrity clicked by user and opens the IMDB page of that celebrity. The tests are done on various movies and the database used is created by a script which **automatically** collects celebrity images **from Google**.

Multiple Object Detection and Tracking, February - April 2010: Project of Digital Video Processing course. Program coded in Visual C++ using **OpenCV 1.0**. It detects and tracks the moving objects in a video. The tests are done using videos of highways (most from PETS datasets) to detect the cars and it succeeded.

Managerial Work Flow Program, August - February 2010: Project for **Türkiye Finans Katılım Bankası**. Project contains **WCF** and Forms Application coded in C#. Türkiye Finans is planning to use the program at all of their Agencies over Turkey. **MsSql** database is used in this project.

Image Coding using Vector Quantization, December 2009: Project of Computer Vision and Pattern Recognition course. **K-Means** clustering is used for coding an image. After clustering image is reconstructed using codebook and indices which produced from clustering.

Face Recognition using Principal Components Analysis, November 2009: Project of Computer Vision and Pattern Recognition course. **MATLAB** image processing toolbox is used and **ORL** database is used for both train and test data. This PCA technique is also known as **Eigenfaces** technique. On the average 90 percent recognition is achieved.

Barcoded Storage Automation, July - October 2009: Project for **ISKI**. Project has two parts, web application designed with **JSF** and **Java Web Service** for both web application and mobile device which has same properties with web application. **Oracle** database is used in this project.

Image Compression and Decompression, March - June 2009: Project of Design Project II course. Program coded in C++ based on Huffman Coding algorithm and on the average 30 percent of memory reduction achieved.

3 DOF Manipulator Design and Control, March 2009: Term project for Fundamentals of Robotics course. Forward, inverse, and velocity kinematics are calculated. Builded using **LEGO NXT** set. Controlled with microcontroller.

Rectangle vs Circle Recognition using OpenCV, May 2009: Self-motivated application. The program identifies blobs as rectangle or circle.

RPM and Direction Detector for a Motor on an FPGA, April 2009: Midterm exam for HDL based Digital Design Project course. The design counts pulses received from two sensors to measure the RPM. Their phase difference tells the rotation direction.

Vending Machine Program, April 2009: Term Project for Embedded Systems Programming course. Developed a C program for a Vending Machine and ran it on **Gumstix (an Embedded Linux Computer)**.

Image Transfer from Computer to FPGA, February 2009: Self-motivated application that utilizes serial communication and on-chip RAMs of FPGA. Transferred image displayed through the FPGA's VGA interface. 24:3 scaling used to fit RGB values of the image.

Basketball Game with FPGA using VGA port, January 2009: Term project for Digital IC Design course. There is a basket and a ball displayed on VGA. Ball can be controlled with buttons on the FPGA to score a basket, and number of baskets can be seen on the seven-segment display.

Emulation of PIC based Elevator Control, October - December 2008: Graduation Project. Designed an MCU (PIC) based elevator controller for two elevators in a 4-story building. Simulated mechanical parts, sensors, and actuators with OpenGL API on a PC connected to the MCU board over RS-232.

Control of DC Motor with Wireless Module using PIC, December 2008: Self-motivated application to utilize a wireless module. An interface program designed using VB. It has start, stop, speed-up, speed-down, and change direction buttons on it to control the motor.

Retrofitting of Labeling Machine, August 2008: Part of my internship. The machine was placed at the end of a conveyor belt to label the bottles. Removed all of the analog controllers and replace them with digital controllers, used **Delta PLC** and analog modules, and **Delta Operator Panel**. Controlled four different DC motor pairs. Designed the new electrical panel and did all the wiring.

Line Following Robot Project, April 2008: Attended Robot Competition, **ITURO 2008 (İstanbul Technical University Robot Olympics)**. Placed #8 in Line Following Robot category.

Various Applications with Mikroelektronika EASYPIC4, March 2008: Used some modules of Mikroelektronika board like seven-segment display, Analog/Digital port, and controlled Servo/Step/DC motors in some small applications.

Work Experience

R&D Engineer, Vistek ISRA Vision, İstanbul, July 2010 - Ongoing: Responsible for developing vision and software solutions, deciding hardware to be used like cameras and lenses.

Software Engineer, SFC Technology, Kreatek, Research and Development (R&D), İstanbul, June 2009 - June 2010: Responsible for researching and developing embedded solutions and software.

Undergraduate Teaching Assistant, Bahçeşehir University, MCH, EEE, and CMPE Dept., İstanbul, October 2008-May 2009: Assisted in the following courses: Introduction to Electronics Laboratory, Introduction to Digital Design, Digital System Design, Embedded Systems Programming, Microprocessors, Computer Aided Technical Drawing.

Intern, APS Ambalaj, Maintenance Dept., İstanbul, August 2008: Diagnosed malfunctions of machines used for mass production. Worked on retrofitting of old model labeling machine.

Intern, Bahçeşehir University, School Internship Program, İstanbul, August 2007: Introduction to MATLAB, Multisim. PIC applications and circuit design. Basics of CNC and Turning Machines (Lathe) and other workshop tools.

Intern, Mercedes Benz, Technical Support, İstanbul, June 2007: Worked with Mercedes Malfunction Detection Device (Star Diagnosis Basic-Compact). Repaired detected electronic malfunctions.

Intern, ASUS, Dept. of Sales and Marketing, İstanbul, January-June 2006: Conducted market surveys in the scope of the program designated by the firm. Reported the results of the market survey to the Dept. of Sales and Marketing.

Extracurricular Activities & Personal Attributes

Licensed basketball player for 3 years (2003: Bahçeşehir Spor Klubü, 2004-05: Bahçeşehir ANTSpor) • Team-player • Self-motivated self-learner • Persistent, responsible hard-worker