

Project Resume

| Project Name | Implementation / Type | Features & Keywords & More |
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| Maze Simulation Platform | Python/ Simulation Platform | Reinforcement Learning is applied to find the shortest path. Random Maze Generation. Used Python Modules: PyGame, Tkinter & WxPython. Eclipse IDE with PyDev. Project Link |
| Maze Control Platform | MATLAB/ Simulation Platform | Random Maze Generation. Controlled by two options: manual by keyboard or switches on STM32F4 ARM board and auto controller on STM32F4 ARM board. |
| Queue Control System & QueMatic | Embedded C, C# / Product for Banks | The Queue Control System has two different parts as Embedded Side on STM32F0 and Server Side. It is designed for Denizbank in Turkey. |
| Digital Clock with Modular Menu | Embedded C, VHDL / Design | On Xilinx FPGA Board by using Xilinx ISE. This is also published as a paper in an IEEE conference with the title of "The Design of Modular Menu For Embedded Systems". |
| JSON Encoder/Decoder | MATLAB, Embedded C/ Parser | It can parse/construct JSON package over serial with OS on embedded platform. It is also waiting for a conference paper. |
| Transmitter Controller | Embedded C / Card Design & Software | 1,4,20 kW transmitters on STR750FV2 ARM uC |
| Transmitter Remote Controller | Java/ Applet Interface | Lantronix Xport module is used as an embedded server environment. |
| Boiler & Fridge Controller | Embedded C / Embedded Software | It is implemented on NEC uC. |
| Boiler PID | MATLAB / Tool | To determine PID coefficients for Boiler & Fridge Systems. |
| Boiler & Fridge Simulator | C# & PHP / Simulator | Offline and Online versions to test thoughts algorithms for the brand of Demirdokum boiler and fridge software. |
| Temperature Controller & Analyzer | Embedded C, Delphi / Card & Software Design | It is implemented for an underwater application by using one-wire communication sensor as DS18B20. |
| Colour Tracker | Embedded C, Java / Robot | It can track specific colour object by using Mindstorm Lego Robot & wireless camera. Image processing part on MATLAB, transferring directions&speed to robot over Java. |
| Line Tracker | EmbeddedC, Assembler/ Robot | The novelty in this robot is smooth movement by PID implementation. Award of Micromouse competition in Turkey |
| MiniSumo Robot | EmbeddedC, Assembler/ Robot | Bottom part of an unused mouse is attached to constructed robot. Using PIC16F877A, robot can move based on the attached mouse outputs on its own. |
| Real Time Data Visualise | MATLAB, EmbeddedC/ GUI over Serial | Real-time data is coming over serial COMs and they are graphically plotted using circular buffer. |
| Adaptive Filter | MATLAB, Python / Simulation | For spectral tracking, Kalman Filter is used on both environments and both implementations are compared in terms of resources. |
| DTMF Encoder/Decoder | MATLAB / GUI | A phone-like DTMF tool with GUI using several methods, FFT, Goertzel and filter banks. Project Link |
| Energy Tracking Web Interface | PHP, JS, AJAX | Cooperation with gruparge.com Project Link |
| ECG Data Processor, ECG Analyzer | MATLAB / GUI | QRS Detection and labelling. |
| Face Detection & Recognition | MATLAB / GUI | %99.2 Detection Rate using eigenfaces method. |
| Wind Turbine Controller | Embedded C / Software | PICC IDE & Compiler |
| Financial Data Analyzer | MATLAB / GUI | MATLAB Fuzzy Toolbox is used. |

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| Vibration Controller | Embedded C, Proteus ISIS/ Product | Ongoing commercial product design. Card Design & Software Implementation |
| ATMEL Programmer Card | Embedded C, EasyPC / Hardware & Software | AVR IDE |
| Door Control | Embedded C/ Software | PIC uC with touchpad |
| FIFO Design | VHDL / | Modelsim |
| Digital Clock Design | by ICs | Digital Design |
| Score Board | by ICs | Digital Design |
| Image processing implementations | C++ | Used C++ CLIP library Paint interface and a number of image processing techniques |
| Signal Processing | Embedded C, Assembler/ On TMS320C30 | Filter implementations |
| Circuit Implementations | PSPICE, Simetrix, Proteus | |
| PCB Designs | Altium, Proteus ISIS | A number of different designs. |
| Shell Scripts | | On DOS and UNIX environments |