Mohamed Mahmoud ElZahhar

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OBJECTIVE

With 7 years of research and development experience among which 3+ years of automotive software development in automotive tier-1 supplier, I am seeking a Senior Software Engineer position, where I get the opportunity to make a significant contribution to the company and the world.

UK Visa Status

Eligible to live and work in the UK

WORK EXPERIENCE

Senior Software Engineer, Interior Switches & Smart Controls, **Valeo**, Egypt

From March, 10, 2013 **to** September, 8, 2016
Since April, 1, 2015, I got promoted from Software Engineer to Senior Software Engineer

Objective:

- Participate in system and customer requirements analysis
- Develop the work breakdown structure and contribute in the estimation of the different project's activities
- Design, implement (Using C), and test real time embedded software for the automotive industry, in particular for ECUs of the interior products, following the V cycle incremental software development process
- Participate in high level design architecture definition for the new products.
- Design complicated software component(s) based on defined high-level design.
- Co-work with international teams located in France and China

Projects and responsibilities:

- ***Daimler MFA2 WILI Project:*** A window lifter and mirror control LIN slave product sends keys status and receives dimming commands through LIN.

  - *Project Responsibilities*
    - Participate in the software architecture for the project
    - Design, develop, test, and integrate the Non-Volatile Memory 'EEPROM' increment
    - Integrate and test Vector Flash Boot loader to allow software flashing over LIN

- ***Ford V362C FCCM and RCCM Projects:*** Climate control panel for Ford vehicles with two variants: Front Panel (FCCM) and Rear Panel (RCCM). Both projects acquire sensors information to regulate the inside thermal comfort and commands the motors and blowers according to the internal thermal regulation. The used OS is OSEK and µC is Freescale

  - *Project Responsibilities*
    - Work simultaneously in FCCM and RCCM projects
    - Develop different software components in the Hardware/Software Interface layer of the software. This includes: Digital I/O, LCD, SPI, UART, Timer

- Responsible for Software/Hardware Integration at China site.
- Integrate overall software components based on the project's architecture.
- Handle the Back on Track plan by travelling to China for handover activities. Once I returned back and beside my technical role, I acted as project manager for this project at Egypt to handle all communications between the Egyptian engineers and the China site
- Support and coach the team members proactively in their daily on-job tasks.

- ***Peugeot-Citroen RD6, RCCNAC, and HVAC Projects:*** Human Machine Interface (HMI) for Peugeot-Citroen vehicles with three variants: RD6 (HMI of the audio system), RCCNAC (HMI for air conditioner and audio-telematic control), and HVAC (HMI for air conditioner). These products are connected to the CAN network of the PSA B618 vehicle. The used OS is MicroC/OS-II and µC is Renesas RL78

  - *Project Responsibilities*
    - Work simultaneously in RD6, RCCNAC, and HVAC projects
    - Design, develop, test, and integrate the Non-Volatile Memory 'EEPROM' increment
    - Design, develop, test, and integrate the EEPROM Check increment
    - Test and integrate ROM and RAM check services
    - Develop the EEPROM Variants Handler tool that's used to create different variants of EEPROM files from an input XML document (Using C#)

- ***Peugeot-Citroen T9C Project:*** Touch screen that interacts with LIN and LVDS networks. The used OS is MicroC/OS-II and µC is Renesas RL78

  - *Project Responsibilities*
    - Work in the driver layer of the software by designing, developing, testing, and integrating the LVDS Slave driver increment

- ***Lada CAMAN Project:*** Air conditioning control panel of LADAB CAMAN vehicles that allows the car users to tune the thermal comfort. The used OS is OSEK and µC is SPC560

  - *Project Responsibilities*
    - Develop different software components in the Hardware/Software Interface layer of the software.
    - Participate in the bug fixing of different components in the driver layer of the software.

- ***Peugeot-Citroen M44 Project*****:** Air conditioning control panel of one of PSA vehicles that allows the car users to tune the thermal comfort. This project doesn't use OS but it use Cyclic Scheduling and µC is MC9S08LG32

  - *Project Responsibilities*
    - Design, develop, test, and integrate the LCD driver component
    - Participate in the bug fixing of different components in the software.

- **Other Projects:**
  - *Project Responsibilities*
    - Perform static code analysis for runtime errors using Polyspace
    - Perform technical reviews on software component design, code, and component test, and integrate test strategy and plan.
    - Start embedded linux development on beaglebone black with good knowledge in Linux

Tools Used: Eclipse, CANoe, Serena Team Track, Serena Dimensions, Reqtify, IBM RTRT, IBM Statemate, IAR Embedded Workbench, TRACE32, Diagnostic Engineering Tool, MULTI IDE, Power Supplies, Oscilloscopes, Function Generators, C, RTOS

Application Developer, Global Delivery Center, **IBM**, Egypt
From October, 1, 2011 **to** March, 7, 2013

Objective:
- Design and develop software systems using UML, OOP, and Design Patterns for internal IBM products
- Co-work with international teams located in India and South America

Projects and responsibilities:

- *IBM Hardware Configurator Project:* Web-based hardware configurator that is used by IBM salesmen in order to facilitate ordering different IBM severs

    - *Project Responsibilities*
        - Work in the IBM Hardware Configurator web-based project. I was involved in the development of new change requests, debugging and root cause analysis of product failures *(Using Java).*
        - Developed CFR2CSD utility that converts the configuration files generated from the IBM Hardware Configurator project into XML representation *(Using Java)*

Tools Used: IBM Rational Software Architect, Websphere Application Server, IBM Configuration Management Tool, Java

Research Assistant, Ubiquitous Computing Group, Center for Informatics Science, Nile University, Egypt
From December, 15, 2009 **to** September, 30, 2011

Job Responsibilities:
- Extended WEKA (Machine learning library in Java) by implementing different machine learning algorithms. In particular, I developed machine learning algorithms that use soft labels, semi-supervised learning, and multiple classifier systems *(Using Java).*
- Developed a software stack 'The Query Engine' for extracting useful information from a huge number of recorded emotions data *(Using Python).*
- Worked in the Traffic Sense project. In particular, I implemented object detection and adaptive shadow removal algorithms for robust car detection *(Using C++).*
- Won 3rd place in the innovation challenge component of the AMD OpenCL Coding Competition by using AMD APP (Accelerated Parallel Processing) SDK and OpenCL (Open Computing Language). Traffic sense project used these technologies in order to accelerate the performance of the developed algorithms on heterogeneous platforms *(Using C++ and OpenCL).*
- Simulated a distributed data storage algorithm for collaborative sensor devices with persistence and mobility *(Using Matlab).*

Tools Used: QT, AMD APP SDK, WEKA, LibSVM, Eclipse, Matlab, C++, OpenCL, Java, Python

EDUCATION

Masters of Communications and Information Technology
Nile University, Egypt 2011

Thesis Topic: A GPU-Accelerated Semi-Supervised Learning-Based Framework for Improved Shadow Removal in Vision-Based Monitoring Systems

Bachelor of Computer Science
Cairo University, Egypt 2008

GPA: 3.4 (Excellent), 12th Rank on the department
Graduation Project: Automatic Soccer Video Summarization *(Using Java)*

AWARDS

- Won **3rd place** in the AMD OpenCL Coding Competition hosted by TopCoder, 2011
- Nile university graduate scholarship, 2010

PUBLICATIONS

- **Mohamed El-Zahhar**, Abubakr and ElHelw, "A Semi-Supervised Learning-Based Method for Adaptive Shadow Detection", published in ICSIPA 2011.
- **Mohamed El-Zahhar** and Neamat El-Gayar, "A Semi-Supervised Learning Approach for Soft Labeled Data", published in ISDA 2010.
- ELDeeb, Abouzaid, Zawbaa, **Mohamed El-Zahhar**, and El-Saban, "Soccer video summarization using enhanced logo detection", published in ICIP 2009.

CONFERENCES AND WORKSHOPS

IEEE International Conference on Signal and Image Processing Applications
Kula Lumber, Malaysia November, 16, 2011
Presented the published paper

IEEE International Conference on Intelligent Systems Design and Applications
Cairo University, Egypt November, 29, 2010
Presented the published paper

International Workshop in Artificial Neural Networks
Nile University, Egypt April, 10, 2010
Member of the organization committee

International Workshop in Multiple Classifier System
Nile University, Egypt April, 7, 2010
Member of the organization committee

IEEE International Conference on Image processing,
Grand Hyatt Hotel, Egypt November, 7, 2009
Presented the published paper