MARCIN LIPCZAK

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                                                        landline:

Profile:

   Over 14 years of R&D experience as an **Embedded Software Engineer ('C')**. Team member and project leader in full life cycle projects. Deep understanding of signal processing and hardware electronics. Strong analytic and mathematical skills. Worked in RF electronics, fibre-optic communication, control systems and variety of automotive fields.

Education:

2002 Oct–2004 Jun	**MSc -** Faculty of Electronics, Telecommunications and Informatics Gdansk University of Technology – Poland, **Control Engineering and Robotics**
1998 Oct–2002 Jun	**BSc -** Faculty of Electronics, Telecommunications and Informatics Gdansk University of Technology – Poland, **Control Engineering and Robotics**
1993 Sep–1998 Jun	**Qualified Electronics Technician - diploma project with distinction,** Technical High School of Electronics and Telecommunication in Olsztyn Speciality: **Computer Systems**

Professional Experience:

Contracts and Consultancy as Linden Embedded Ltd.

Apr 2019 – Oct 2019
Wipac Ltd. UK - **senior embedded software engineer**
- UDS implementation using Vector LIN stack for AUDI EV, solving Bugatti system issues
- creating ISO26262 compliance tables for software development, consulting tools for management

Feb 2019 - Mar 2019
Control Technologies UK Ltd - **system engineer**
- Hybrid vechicle project viability assesment, Simulink system analysis, time schedule, requirements

Jun 2018 - Dec 2018
Nippon Seiki UK - **senior embedded software engineer** for Jaguar's cluster display project
- implementing JLR's software requirements, application level, GHS compiler, Eclipse, IBM RTC for team code deployment and version control
- debugging and problem finding and solving in existing implementation as per specification, IBM Jazz environment, refining software specification in cooperation with JLR
- MISRA rules turned fully on, compiler in -wall mode, code review
- extensive use of Canoe (FlexRay protocol, diagnostic session), debugging AUTOSAR diagnostic and CAN stacks

Permanent Roles

Aug 2017 - Mar 2018
Creavo Medical Technologies - **embedded software engineer/algorithms engineer** in safety critical medical device (magnetocardiography)

- **bare bone drivers** for STM32F767 under **IEC 62304** (I2C, RTC, OTP, EEPROM, IO), **IAR IDE**, handling SOUP code
- MISRA rules turned fully on, compiler in -wall mode, lint static code analysis, code review
- updating software requirements, taking part in ASIL analysis
- Matlab Coder **code generation** of 'heart QRS complex' detection algorithm and integration with C, compound side to side test of Python, Matlab and C versions of algorithms in Matlab environment, documentation compliant with ISO **13485**

Sep 2013 - Aug 2017
Haldex Brake Products Ltd.- **embedded software engineer/control system engineer** in safety critical vehicle dynamics systems (HGV trailer anti-rollover system)

- full toolchain configuration in plain **Eclipse** for V850ES GHS compiler, Green Hills **Multi IDE,** taking software metrics, maintaining and developing existing code in different projects
- CAN interface ISO11992, ISO11898, taken part in 'TUV Germany' certification process, **CANalyzer** and **Canoe** extensive usage for **HiL** tests and code developement
- convinced company to implement test-driven development for embedded systems (**VectorCast**), convinced company to place code review (**Phabricator**) in a development process regarding oncoming ISO26262 implementation
- wheel speed and accelerometer signal processing, improvement in **earlier detection** of rollover event, Kalman filter development for wheel speeds and anti-rollover system
- Simulink code generation (**Simulink Coder**) and integration with C
- capturing system requirements (**Cradle**)
- cooperation in research with **Cambridge** University, Chalmers University and **Volvo** in Sweden

Nov 2009 - Jul 2012
Vector Sp. z o.o.- **embedded software engineer** in telecommunication RF & fibre-optical infrastructure for cable TV and internet providers

- **agile** software development (**scrum** with elements of eXtreme programming)
- team development under version control **Subversion,** bug report **Bugzilla**, management in **JIRA**
- **decide** on MCU and tools selection at design specification stage
- **drivers' development** on NXP LPC family
  - **multimaster I2C** communication
  - software **SPI** and software **UART** transmitter/receiver **(**IRQ based**)**
  - remote communication with **FSK transceiver** (MAC address, remote data gathering)
- porting and refactoring code, **PIC** (CC5X compiler) and **ARM Cortex M0**/M3 (**gcc** compiler)
- production **tests planning** with QA engineers
- **stabilization algorithms -** laser power stabilization and slope efficiency, AGC algorithms, thermal stabilization, using look-up tables and linearisation or nonlinear functions
- coding under **FreeRTOS** embedded real time operating system

Oct 2007 - Oct 2009
RADMOR S.A.- **embedded software engineer,** government owned company, marine telecommunication

- developing I2C to SPI and UART bridge between MCUs and PC
- developing **software for prototypes**, interfaces to control IC's e.g. RF mixers, ADC's
- developing + simulation of C algorithms of CPFSK software modem under Matlab and Simulink
- developing software for military hand-held transmitter prototype with frequency hopping, work in team of European Ministries of Defence Project: ESSOR, **Software Defined Radio**, possess **EU/NATO Personnel Security Clearance Certificate** (valid for two years)

XII 2004 - VI 2007
EMUZ joint venture sp. z o.o.- **embedded software engineer** /electronics engineer, digital thermostats for electrical floor heating

- coding in **assembler** for Microchip PIC and in **C** for Hitachi H8S300 and TI MSP430
- **development** of software and hardware, electronics design using **Protel**, assembly prototype boards (soldering) and tests of digital thermostat prototypes
- **research**: thermal **process identification** in **Matlab and Simulink**, design and implementation of **control algorithm**
- developing **drivers** and GUI for **graphical LCD** display controlled by encoder, SPI and UART communication with IC's
- taking remote measurements with Matlab Instrument Control Toolbox & HP GPIB multimeters
- **creating test requirements documentation** for Chinese manufacturer, making design specification in cooperation with Swedish partner **EBECO**.

Achievements:

Improvement in **earlier detection** of rollover event for HVG trailers' anti rollover system (Haldex).

As a result of my decisive design recommendations (MCU) as a software leader in crucial development project our team in the Vector company managed to create product that **conquered the Russian market** (very short window business opportunity, good team work).
https://www.vectorsolutions.net/produkty/vector-lambda-pro-7x/

Because of my attention to details an elusive hardware problem was found and solved. After we reported to the producer, **Peregrine Semiconductor,** it had written additional application note for theirs RF attenuators which incorporates my solution. http://www.psemi.com/pdf/app_notes/an27.pdf

Using engineer skills and conducting a research I managed to model and digitally compensate (C Laplace transform implementation) parasite thermal influence at measuring sensor. As a result a very precise digital thermostat series was developed. Product used in **Ericsson** offices, Göteborg Opera and Oslo airport (Sweden). http://www.ebeco.pl/ and http://www.ebeco.com/underfloor-heating/thermostats.

Skills:

Programming	: **assembler and C advanced** (MISRA, Lint), **Matlab/Simulink** (**advanced**), C++ (basics), Python (basics), advanced debugging, digital filtering, dithering, **oversampling**
Microcontrollers	: **STM32**F7x7, **TI** MSP430, **Microchip PIC** 16Fxxx & others, **Renesas** H8/300, V850ES/Fx **NXP** LPC11xx / LPC13xx / LPC17xx, **SiLabs** C8051F31x,
IDE	: **Green Hills**, MPLAB, Keil µVision, IAR Systems, LPCXpresso/**Eclipse**, Microsoft Visual Studio
Management	: **Subversion** version control for team project, **JIRA** reporting, **Cradle, Redmine IBM RTC**
Electronics	: deep and analytic insight in circuit work, could find difficult and hidden bugs very effectively, use of **PSPICE**, **Protel DXP**, **PADS** for simulating circuits
Control Systems	: *s*ystem identification and system modelling (**Simulink, Matlab, SciLab**), control system design in discrete and continuous time, classical frequency domain approach and numeric methods, lead-lag, robust control (master thesis), dead-beat, PID, hydraulic **servo valves** Simulink simulation with nonlinearities like frictions and turbulent flow related nonlinearities
Operating systems:	: Linux (SuSe, Mint) user, basic knowledge: command line bash scripts

Certifications

Title: **ISO 14001:2015 Organisational Conversion**
Certification Date: Apr 2017 – Present
Certification authority: Qualatis

Title: **Simulink Model Management and Architecture**
Certification Date: Feb 2016 – Present
Certification authority: Mathworks Training

Title: **CANalyzer Workshop**
Certification Date: Sep 2014 – Present
Certification authority: Vector Academy

Title: **Embedded Coder for Production Code Generation**
Certification Date: Mar 2014 – Present
Certification authority: MathWorks Training Services

Title: **A.E.D. Automated External Defibrilator**
Certification Date: Oct 2016 – Oct 2017 License 15/10232
Certification authority: NEWGRANGE TRAINING AND SERVICES LIMITED

Title: **EU Personnel Security Clearance**
Certification Date: Jul 2009 – Jul 2015 License 1055/CE/2009/MCS/PL
Certification authority: National Security Authority MCS

Additional information:

First Aid CPR certificate.
Polish   - native
English   - advanced
Ukrainian   - upper intermediate
Russian   - pre-intermediate
Driving license: - UK full, clean.

Interests: - active figure skater with **two gold medals** in Polish official adult amateur
                          team synchronized ice skating (IceSkater Sport Association), preparing to enter
                          UK's competition as a solo skater, ISU member

Marcin Mikołaj dipesak

Contracts in UK only
Hourly Rate starts at 40£/h
my status is EU indefinite leave to remain