

PERSONAL INFORMATION

Doru-Stefan Irimescu

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WORK EXPERIENCE

01/03/2019-Present

University research assistant

Aalto University School of Electrical Engineering, department of Electronics and Nanoengineering, Espoo (Finland)

Designed a measurement and characterization PCB for a research-grade integrated circuit, using Altium Designer.

Used LabVIEW, together with USRP n210 for receiving and transmitting data from/to the chip.

Developing a Python interface for measurement automation and configuration of the IC, using testdriven development with Pytest.

Arduino Due programming.

Designed analog filters and impedance matching networks using Advanced Design System (ADS).

Performed various laboratory tests and measurements, using oscilloscope, vector network analyzer, power supply, multimeter.

My designs helped the researchers from prof. Kari Halonen's group to test and characterize their IC designs, as well as create a prototype to showcase the work of four researchers.

Related document(s): AaltoPCB.PNG

13/01/2020-31/03/2020

University teaching assistant

Aalto University School of Science, department of Computer Science, Espoo (Finland)

Course name: CS-E4800 Artificial Intelligence

Supported the course exercises with various Python programming, troubleshooting and debugging tasks.

My contributions helped ease the professor's workload on the (in-development) course, and strengthened the students' understanding of some the most popular AI algorithms.

01/09/2019-31/12/2020

University teaching assistant

Aalto University School of Electrical Engineering, department of Electrical Engineering and Automation, Espoo (Finland)

Course name: ELEC-E8001 Embedded Real-Time Systems

Developed from scratch a set of laboratory exercises that showcase the capabilities of an STM32 ARM Cortex-M4 development board (NUCLEO-F411RE).

This involved various hardware and peripheral interfacing, as well as FreeRTOS application development, done using the STM32CubeIDE environment.



My typical responsibilities were hardware selection and procurement, course development and grading, meeting with students for instructing and troubleshooting, embedded software design.

My work benefited the Electrical Engineering and Automation department by augmenting with practical exercises and hands-on experience a course that is compulsory for the Control, Robotics and Autonomous Systems major, and that had previously been only theory-based.

01/08/2018-31/10/2018

Embedded systems engineer

Artisense GmbH, Munich (Germany)

Developed, implemented and documented a data acquisition system prototype, from both the hardware and software aspects. The main tasks included Kinetis programming and embedded design software for an FRDM-K66F based inertial measurement unit data acquisition system according to time and data format requirements given by the client. PCB design, order and assembly. Hardware (electronics) prototyping. Software architecture design and documentation.

The main tools and technologies that I have used in this project were: MCUXpresso, FRDM-K66F, Kinetis SDK, SPI, UDP, Lwip, Autodesk Eagle, Processing.

In the end, the user could log into the measurement system, send a timing configuration for data acquisition rate and camera triggering, and receive the data on the PC. My work enabled Artisense to develop a successful prototype for its hardware and data infrastructure.

01/09/2017-01/05/2018

Embedded systems trainee, bachelor thesis

Wärtsilä, Vaasa (Finland)

Working on my bachelor thesis, entitled "Absolute position measurement and control for Wärtsilä engine during slow turning".

The main tasks include designing, prototyping and improving a control system using the Matlab/Simulink environment and the Wärtsilä UNIC engine control system for diesel engines.

My thesis work will enhance the maintainability of the next generation of diesel engines, as well as make the slow turning process more controllable and documented.

01/05/2016-31/08/2017

Embedded systems trainee

Wärtsilä, Vaasa (Finland)

I have built a 6 channel power monitoring data acquisition board, the hardware and software design being entirely done by me, using Pads Logic and Layout, Multisim Blue, Orcad Pspice, C programming for ARM microcontrollers together with the lwip stack and FreeRtos.

My work has been part of the Wärtsilä digitalization endeavor, aiming to improve and ease the automated laboratory engine tests.

I have also carried out various tasks regarding engine control automation systems and electronics, with the purpose of building and improving two demonstrational kits of the Wärtsilä UNIC system.



01/04/2014-31/08/2015

Software engineering trainee

Vaasa University of Applied Sciences, Vaasa (Finland)

Android software development for an embedded systems bachelor thesis entitled 'Smart Lock', using the Java programming language.

My work has helped a graduating student to successfully implement a fully automated, smartphone-controllable door lock as his bachelor thesis.

01/05/2013-01/06/2013

Software engineering trainee

Bellegames, Oulu (Finland)

I wrote software documentation for a game development startup, using the Java programming language and UML diagrams.

EDUCATION AND TRAINING

01/09/2018-Present

Master's degree

Aalto University (Finland)

Automation and Electrical Engineering

88/120 ECTS GPA: 4.71

01/08/2014-20/04/2018

Bachelor of engineering, Information Technology

Vaasa University of Applied Sciences, Vaasa (Finland)

Information technology degree with focus on embedded systems GPA:4.76

- Electronics design
- Software engineering
- Embedded software design
- Telecommunications
- Advanced courses in Mathematics
- Basics of control engineering

Optional master level courses from Vaasa University GPA:5.0/5.0

- Computer Architectures
- Probability and Statistics
- Digital Signal Processors
- Numerical Methods

28/08/2013-15/05/2014

Bachelor of engineering, Information Technology

Oulu University of Applied Sciences, Oulu (Finland)

Information technology degree with focus on software engineering and web development

EQF level 7

EQF level 6

EQF level 6



Curriculum vitae

GPA:4.16/5.0

- Software engineering
- Databases
- Java programming
- Web technologies

15/09/2009-15/07/2013

Baccalaureate

EQF level 4

Colegiul Costache Negruzzi, Iasi (Romania)

Matriculation exam: Physics 10.0/10.0 Mathematics 9.50/10.0 Romanian 7.85/10.0

PERSONAL SKILLS

Mother tongue(s)

Romanian

Foreign language(s)

UNDERSTANDING		SPEAKING		WRITING			
Listening	Reading	Spoken interaction	Spoken production				
C1	C1	C1	C1	C1			
	Cambridge Certificate in Advanced English B						
B1	B1	B1	B1	B1			

English

Finnish

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user Common European Framework of Reference for Languages - Self-assessment grid

Communication skills

Excellent communication skills gained during my bachelor of engineering studies conducted in English, as well as workplace experience.

Confident with keeping long presentations.

Tech-savvy person, I can communicate at ease with engineers with different backgrounds and specializations.

Organisational / managerial skills

- Leadership: During the Project Work course in 2019, I led a team of 7 people and four distinct nationalities towards designing a <u>ship thruster interface</u>.
- -I have successfully scheduled the weekly meetings, performed the WBS, monitored and managed the project progress (using Gantt charts) and also lead the team by example, being the hardware design engineer.

Related document(s): ProjektManager.pdf

Job-related skills

Programming:

- C/C++
- Python
- Git
- Matlab with Stateflow and Simulink
- LabVIEW
- Java and Processing
- SQL



Curriculum vitae

Computer-aided design software:

- Altium designer
- Autodesk Eagle
- Advanced Design System
- Orcad Pspice
- NI Multisim
- PADS Logic and Layout

Professional experience:

- Advanced experience with software (embedded and PC) design and documentation
- Advanced experience with electronics and PCB design and documentation
- Intermediate experience with real-time operating systems and lightweight IP
- Intermediate experience with the Linux operating system
- Intermediate experience with computer networks
- Intermediate experience with control systems design

Pages:

https://www.linkedin.com/in/doru-stefan-irimescu-0b2718b1/

https://github.com/doruirimescu

Digital skills

	SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem- solving	
Independent user	Proficient user	Proficient user	Proficient user	Proficient user	

Digital skills - Self-assessment grid

ECDL Core	5.0
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Driving licence

В

ATTACHMENTS

- ProjektManager.pdf
- AaltoPCB.PNG



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Certificate Project manager in Project Work course 2019

Master's Programme in Automation and Electrical Engineering (AEE) Course code: ELEC-E8004 (2019), 10 ECTS credits

In each project topic, consisting of four to six students, one student acted as a Project manager. The project managers typically organized the work of the team, under the supervision of Instructor. Besides taking a role as a team member to solve technical challenges, the Project manager took care of planning of various activities, using resources and reporting the progress among other management duties.

Doru Irimescu

was the Project manager of project topic

Ship thruster interface

responsible teachers of the course

7imo Oksanen 🛮 Lauri Palva

21 May 2019



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