europass

Doru-Stefan Irimescu

Date of birth: 13/01/1995 | **Nationality:** Romanian | **Gender:** Male |

(+358) 466162925 | dorustefan.irimescu@gmail.com |

linkedin.com/in/doru-stefan-irimescu | https://github.com/doruirimescu/Astar |

Perilännitty 7 A, 17, 02600, Espoo, Finland

WORK EXPERIENCE

01/08/2021 – CURRENT – Espoo, Finland

SCRUM MASTER – SENSIBLE 4

Worked in a feature team of ~5 members. Facilitated the scrum ceremonies and ensured that the scrum process is respected, in close collaboration with our team leader/feature owner. Collaborated with other scrum masters and upper management to ensure that the scrum process is constantly improved by learning, sharing experiences and proposing new adjustments to our current process as an organization.

My work benefited the organization by bringing the fresh approach of "organizational retro". I helped to create a system where teams can give feedback to the higher management about issues which are outside of their influence. I helped to create a system for the upper management where incoming issues from the other teams would be prioritized and handled in an agile manner.

My work benefited the team by creating a systematic approach to sprint planning, by designing a numbering system that allowed us to plan user story tasks in such a way that more developers can work on them in the same time. In addition, I created a checklist which aided the developers focus (during backlog refinement) on the main efforts which would be required by a story.

Tools used: Youtrack, Google Sheets

15/09/2020 – CURRENT – Espoo, Finland

AUTONOMOUS VEHICLE ENGINEER – SENSIBLE 4

Agile feature-driven software development for high level collision avoidance systems in the Planning and Control deparment.
C++ and Python programming for a ROS (Robot Operating System)-based autonomous driving system.

Wrote a C++ statechart library based on the "State" design pattern, and then a Behaviour Planner which uses it. The Behaviour Planner orchestrates the maneuvers performed by the self-driving vehicle.

Refactored the Adaptive Cruise Control module to respect SOLID object-oriented design principles and to facilitate test-driven development.

Led the design discussions for the Risk Assessment module, which comprises the Behaviour Planner and Threat Assessment modules. Before I came, the code was not unit tested. After one year, the code coverage was 90%.

Designed and documented (with UML) the Risk Assessment architecture, setting up a documentation model for the rest of the feature teams.

Wrote GitLab .ci pipeline scripts which enabled the first monorepo (with accurate code coverage reports) in our Agile feature team.

Designed, documented and performed vehicle testing scenarios.

Wrote (using Python) Scenario Runner traffic simulation scenarios, according to functional requirements. Wrote software requirements and tests in accordance with the V-model which we used for developing automotive software.

Designed and implemented, as a self-initiated project the Acceptance Testing Framework (Python and Bash), which enables engineers to launch scripts corresponding to complex simulation scenarios, which otherwise would need tedious configurations and adjustments. It is used by the engineers for performing regression tests or finding new bugs.

Wrote the naming conventions and doxygen commenting guidelines which are to be taken into use by our entire company, as part of the “software architecture” team.

Wrote programming interview questions on Testdome, designed an interview for a new team member together with our team lead/feature owner, performed interviewing and assessments.

My work brought a strong focus towards sofware quality, SOLID object-oriented programming and clean code to the Cautios Driving feature team of the Planning and Control department. Moreover, I have increased the awareness of test-driven development, and dramatically increased the code coverage of our product. My self-initiative impacted the company by giving birth to the acceptance testing framework. After my arrival, I have pair-coded with all of the developers in my team, and thus increased awareness and confidence in this practice.

Tools used: C++14 , Python 3, ROS, Bash, Googletest, Google Mock, Pytest, Conan, JFrog Artifactory, GitLab, Docker, CMake, Catkin, Carla, Scenario Runner, Doxygen, UML, draw.io, Testdome

01/03/2019 – 01/09/2020

UNIVERSITY RESEARCH ASSISTANT, MASTER THESIS – AALTO UNIVERSITY, DEPARTMENT OF ELECTRONICS AND NANOENGINEERING

Worked on my master's thesis, entitled "A hardware and software platform for characterization and prototyping of a low-power energy-harvesting SoC". The thesis received Huawei Master's Thesis Award 2020.

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.
Developed a Python programming interface for measurement automation and configuration of the IC, using test-driven development with Pytest and SOLID object-oriented programming. Low-level IC configuration achieved with Arduino Due programming in C++.
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 prof. Kari Halonen's research group to test and characterize their IC designs, as well as create a prototype to showcase the work to project stakeholders.

Espoo, Finland

https://aaltodoc.aalto.fi/handle/123456789/47153

13/01/2020 – 31/03/2020

UNIVERSITY TEACHING ASSISTANT – AALTO UNIVERSITY, DEPARTMENT OF COMPUTER SCIENCE

Course name: CS-E4800 Artificial Intelligence
Supported the course exercises with various Python 3 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.

Espoo, Finland

01/09/2019 – 31/12/2019

UNIVERSITY TEACHING ASSISTANT – AALTO UNIVERSITY, DEPARTMENT OF ELECTRICAL ENGINEERING AND AUTOMATION

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).

Various hardware and peripheral interfacing using ANSI C as well as FreeRTOS application development, done in the STM32CubeIDE environment.
My 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.

Espoo, Finland

01/08/2018 – 31/10/2018

EMBEDDED SYSTEMS ENGINEER – ARTISENSE GMBH

Developed, implemented and documented a data acquisition system prototype, from both the hardware and software aspects. 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. Electronics prototyping. Software architecture design and documentation.
Tools and technologies used in this project: 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.

Munich, Germany

01/09/2017 – 01/05/2018

EMBEDDED SYSTEMS TRAINEE, BACHELOR THESIS – WÄRTSILÄ

Worked on my bachelor thesis, entitled "Absolute position measurement and control for Wärtsilä engine during slow turning".
The main tasks were 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 enhanced the maintainability of the next generation of diesel engines, and made the slow turning process more controllable and documented.

Vaasa, Finland

https://www.theseus.fi/handle/10024/142890

01/05/2016 – 31/08/2017

EMBEDDED SYSTEMS TRAINEE – WÄRTSILÄ

Built a 6 channel power monitoring data acquisition board, involving hardware and software design using Pads Logic and Layout, Multisim Blue, Orcad Pspice, ANSI C programming for ARM microcontrollers together with the lwip stack and FreeRtos.

The user could login to a PC-based user interface written in Processing (Java), start/stop the measurement session and record measurements to storage.

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

I had 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.

Vaasa, Finland

01/04/2014 – 31/08/2015

SOFTWARE ENGINEERING TRAINEE – VAASA UNIVERSITY OF APPLIED SCIENCES

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.

Vaasa, Finland

01/05/2013 – 01/06/2013

SOFTWARE ENGINEERING TRAINEE – BELLEGAMES

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

Oulu, Finland

EDUCATION AND TRAINING

01/09/2018 – 01/09/2020 – Finland

MASTER OF SCIENCE – Aalto University

Automation and Electrical Engineering
125/120 ECTS
GPA: 4.71

EQF level 7

01/08/2014 – 20/04/2018 – Vaasa, Finland

BACHELOR OF ENGINEERING, INFORMATION TECHNOLOGY – Vaasa University of Applied Sciences

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

EQF level 6

28/08/2013 – 15/05/2014 – Oulu, Finland

BACHELOR OF ENGINEERING, INFORMATION TECHNOLOGY – Oulu University of Applied Sciences

Information technology degree with focus on software engineering and web development
GPA:4.16/5.0

- Software engineering
- Databases
- Java programming
- Web technologies

EQF level 6

15/09/2009 – 15/07/2013 – Iasi, Romania

BACCALAUREATE – Colegiul Costache Negruzzi

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

EQF level 4

LANGUAGE SKILLS

Mother tongue(s): **ROMANIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1
FINNISH	B1	B1	B1	B1	B1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

ORGANISATIONAL SKILLS

Organisational skills

- Leadership: During the Project Work course in 2019, I led a team of 7 people and four distinct nationalities towards designing a ship thruster interface.
-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.

COMMUNICATION AND INTERPERSONAL SKILLS

Communication and interpersonal 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.