



# Yassin Jomni, Ph D

Sr. Embedded Software Engineer,  
Author, Serial Entrepreneur  
& Innovator

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- yassin-jomni

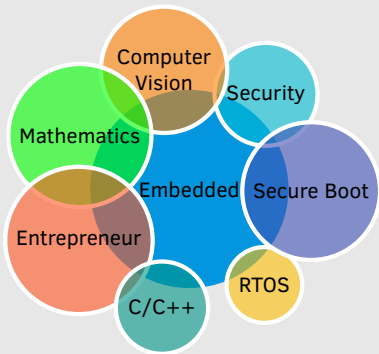
## About Me

Yassin is an Embedded Software Engineering specialist with a focus on safety and security.

He thrives near hardware and has over 20 years overlapping experience working with system critical embedded software from both academia and a wide range of industries such as the Automotive, Medtech, Defense and Aerospace industries.

He has 7 years of experience working with Computer Vision and Camera Calibration in embedded environments from both Medtech and Automotive industries.

## Skills



## Languages

- Swedish
- Frensh
- English
- Italian

## Selected Work Experience

Present	<b>Founder &amp; Sr. Embedded SW Engineer (contractor)</b> Zinnova AB Zinnova AB offers consulting services in Embedded Software Engineering with a focus on safety and security as well as Computer Vision and Camera Calibration algorithm development services.
May 2016 Sep 2024	<b>Chief Technology Officer</b> OxyTemp Sweden AB <ul style="list-style-type: none"><li>Led MDSW CE-regulation compliance activities.</li><li>Writing grant applications and budget.</li><li>Designed &amp; implemented a fever and Oxygen saturation algorithm in PHP &amp; MySQL (MVP/prototype R&amp;D).</li></ul> <i>Skills: R&amp;D, Leadership, Clinical trials, MDSW, IEC-62304, ISO-14971, ISO-13485, Python, PHP, MySQL, Docker</i>
Aug 2023 Sep 2023	<b>Sr. Embedded Software Engineer</b> Eletta Flow AB (contract) Saved the customer the cost of hiring a team of engineers by totally owning and single handedly executing the entire HW & SW development chain from idea to final product (flow meter). <ul style="list-style-type: none"><li>System &amp; software requirement work.</li><li>System &amp; software architecture design.</li><li>Firmware and driver implementation from barebone ARM Cortex M4F CPU to final product.</li><li>Software unit &amp; system testing.</li><li>PCB design &amp; bring up.</li></ul> <i>Skills: R&amp;D, Safety, STM32, SPI, USART, MPU, DMA, Timers, Watchdog, HAL, BSP, SysML, Eagle CAD, C, C++, Docker</i>
Sep 2021 Dec 2024	<b>Entrepreneur &amp; Innovator</b> Zinnova AB Developed a Computer Vision algorithm for Malaria parasite (MP) & White Blood Cell (WBC) detection and classification. The algorithm was implemented in an offline Android app (TRL4). <ul style="list-style-type: none"><li>MP and WBC feature extraction using image processing methods.</li><li>Developed &amp; implemented a CNN model for MP and WBC classification.</li><li>Applied research in Computer Vision applications for Malaria diagnostics in collaboration with research institutes from <a href="#">Cameroon</a>, <a href="#">Mali</a> &amp; <a href="#">Nigeria</a>.</li><li>Presented the algorithm at the <a href="#">ICMEC 2022</a> conference.</li><li>Was semi-finalist at the <a href="#">MIT Solve challenge 2021</a> (Within top 60 start-ups from 1800 in total)</li><li>Teached an engineering student interested in Computer Vision &amp; Camera Calibration part of a Research to Business (R2B) ecosystem.</li><li>Writing grant applications and budget.</li><li>Was part of <a href="#">LEAD start-up incubator</a> with his Malaria detection and classification algorithm.</li></ul> <i>Skills: Applied Research, Leadership, Edge Computing, ML, CNN, Bayesian Hyperparameter Optimization, Computer Vision, OpenCV, TensorFlow, TensorFlow Lite, Keras, Python, Java, C++, Android, Android (JNI)</i>
Nov 2020 Nov 2020	<b>Embedded Software Engineer</b> Veoneer Sweden AB (contract) <ul style="list-style-type: none"><li>Part of the MCU team working with different implementation tasks within system critical embedded software such as: boot-loader, secure boot, cryptography &amp; functional safety.</li><li>Was part of a code quality group of 4 persons to ensure that code quality standards are met.</li><li>Technical leadership and support to several developer teams around the globe.</li><li>Was part of and led several task force teams to solve urgent critical bugs.</li><li>Discovered and fixed several critical cyber security bugs, saving the company huge costs associated with vehicle recalls.</li></ul> <i>Skills: Tech Leadership, Secure boot, Cryptography, Cyber Security, MISRA C, Python, Bazel, AUTOSAR, FuSa ISO-26262, Infineon TriCore AURIX TC3xx MCU, MPU, HSM</i>
Nov 2017	



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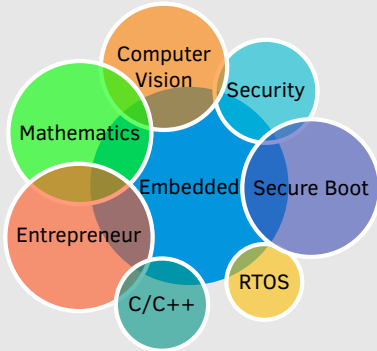
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## Skills

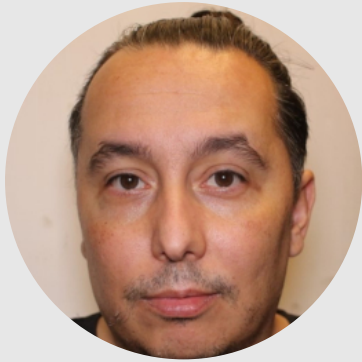


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## Selected Work Experience

Oct 2017	<b>Embedded Software Engineer</b>	SAAB AB (contract)
	<ul style="list-style-type: none"><li>Research, design &amp; implementation of a fuzzy-logic contrast enhancing real-time algorithm for system critical IR-cameras.</li><li>Custom development of an embedded Linux OS image for a tank computer.</li></ul>	
	<i>Skills: R&amp;D, Research, Mathematics, Image Processing, C, C++, Yocto, Embedded Linux, Python, OpenCV, TensorFlow</i>	
Mar 2017		
Feb 2017	<b>Embedded SW Engineer</b>	BraceIT AB
	<ul style="list-style-type: none"><li>Smart clock embedded graphics engine design &amp; implementation in C++.</li><li>Graphics simulator design &amp; implementation in Qt.</li></ul>	
	<i>Skills: Embedded, ARM, Algorithm, C++, Qt, Protobuf, FreeRTOS</i>	
Nov 2014		
Feb 2017	<b>Process Owner</b>	Autoliv Electronics AB (contract)
	<ul style="list-style-type: none"><li>Developed &amp; maintained 2 high volume production camera calibration systems: End-of-Line (EoL) &amp; Boresight.</li><li>Led a small team of 3 SW engineers.</li><li>Data analysis &amp; statistical modelling of production data to predict yield losses and early-stage detection of product deviations.</li><li>Customer contact and technical support (internally and externally).</li></ul>	
	<i>Skills: R&amp;D, Leadership, 2D/3D Camera Calibration, Distortion, 3D Reconstruction, Stereopsis, Intrinsic/Extrinsic Matrix, Essential/Fundamental Matrix, Epipolar Geometry, Brown-Conrady Model, Linear/Non-linear Least-Square Methods, 8-point algorithm, SVD, QR-Decomposition, PCA, PSF, MTF, C, C++, C#, Python, OpenCV, TensorFlow</i>	
Nov 2014		
Oct 2014	<b>Embedded Software Engineer</b>	Ericsson AB (contract)
	<ul style="list-style-type: none"><li>Several bootloader &amp; low-level driver development tasks.</li><li>Multi-threaded and system critical functional development.</li></ul>	
	<i>Skills: C, QNX, SPI, USART, I2C, Git, Agile Methodologies</i>	
Apr 2014		
Apr 2014	<b>Systems Engineer / Technical Coordinator</b>	SAAB AB (contract)
	<ul style="list-style-type: none"><li><u>Technical Coordinator</u>: Design and implementation of a profiling tool for CPU-time measurements for critical kernel threads in embedded RT-Linux.</li><li><u>Systems Engineer</u>: Model-based SW design and system engineering for the aeronautics division for Gripen E/F (Simulink - Level A software)</li></ul>	
	<i>Skills: C, C++, Embedded RT-Linux, Process profiling, Simulink, Matlab, Doors</i>	
Feb 2013		
Jan 2013	<b>R&amp;D Engineer</b>	Eletta Flow AB
	<ul style="list-style-type: none"><li>Embedded firmware design &amp; implementation from barebone ARM/AVR to final product.</li><li>Flow measurement algorithm design and implementation.</li><li>Turbulent/Laminar flow simulation for viscous/non-viscous fluids.</li><li>PC SW development in Qt.</li></ul>	
	<i>Skills: R&amp;D, Navier-Stokes, Bernoulli, CFD, Safety, C, C++, ARM, AVR, SPI, USART, MPU, DMA, Timers, Watchdog, HAL, Eagle CAD, Qt, Matlab</i>	
Aug 2007		
Jun 2007	<b>Ph. D. Student</b>	EISLab / Luleå University of Technology
	<p>Yassin's research focused on improving heat energy measurement accuracy in district heating substations accounting for the dynamics of such systems.</p> <ul style="list-style-type: none"><li>A digital twin of a district heating substation and a house were made in cooperation with <b>LTH</b>.</li><li>An adaptive and a feed-forward algorithm to improve heat energy measurement accuracy were developed.</li><li>Heat transfer modeling in heat exchangers.</li></ul>	
	<i>Skills: Research, Mathematical Physics, Mathematical modeling, Heat transfer, Algorithm Development, Navier-Stokes, Bernoulli, LaTeX, C, C++, Matlab, Simulink, Contiki OS, NutOS, RT-OS, Embedded Systems</i>	
Jan 2002		



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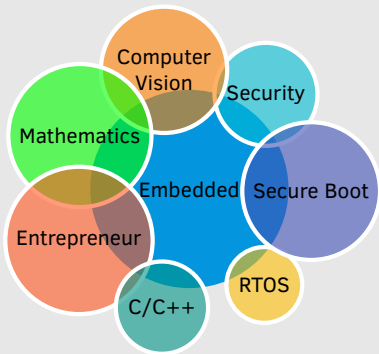
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## Entrepreneurship

2016

2024

2023

2021

2016

2022

2015

2009

2003

**Zinnova AB**  
Founder, CEO & Sr. Embedded SW Engineer

- Yassin's consultancy and innovation company.
- Was part of *LEAD start-up incubator* with his Malaria detection and classification algorithm.
- Z Dev AB, founded in May 2016, morphed to Zinnova AB in May 2021.

**OxyTemp Sweden AB**  
Joint Owner & Chief Technology Officer  
OxyTemp Sweden AB is a start-up developing cloud-based software for intelligent temperature and oxygen saturation measurements for precision medicine.

- Was part of *LEAD start-up incubator*.

**Z Dev AB**  
Founder, CEO & Sr. Embedded SW Engineer  
Z Dev AB offered consulting services in Embedded Software Engineering with a focus on safety and security as well as Computer Vision and Camera Calibration algorithm development services.  
Z Dev AB morphed to Zinnova AB in May 2021.

**BraceIT AB**  
Joint Owner & Sr. SW Engineer  
BraceIT AB was a startup company that aimed to develop the first smart watch with a private secure cloud.

- Was part of *LEAD start-up incubator*.

**Modio**  
Founder, CEO & SW Engineer  
Modio was founded to prototype and commercialize Yassin's research during his Ph. D. studies.

- A prototype of a TCP/IP connected heat meter with his novel measurement algorithms was developed.

## Volunteer Work / Projects

2024 - 2025

**Riksförbundet FUB**  
Developed an AI chatbot lawyer as a support tool for *FUB* staff and members (ca 25000 individuals) when handling legal processes (LLM Llama 3.2, RAG, Langchain, ChromaDB)

## Education

2002 - 2006	<b>Ph.D. Industrial Electronics</b>	LTU, Luleå/Sweden
2002 - 2004	<b>Eng. Lic. Industrial Electronics</b>	LTU, Luleå/Sweden
2001 - 2001	<b>Accelerator Physics &amp; Instrumentation</b>	CERN, Geneva/Switzerland Pre-PhD program for studies in Particle/Theoretical Physics at <i>Conseil Européen pour la Recherche Nucléaire</i> (CERN).
1996 - 2001	<b>M.Sc. Eng. Physics &amp; Applied Mathematics</b>	LTU, Luleå/Sweden

## Selected Publications

Yassin has contributed 12 scientific publications in total. Here is a selection:

2010

**Improving Heat measurement in Houses and Buildings**  
Book  
Publisher: LAP Lambert Academic Publishing, ISBN 3838312872

2006

**Improving heat measurement accuracy in district heating sub-stations**  
Ph.D. Thesis  
Luleå University of Technology, ISSN 14021544 / ISRN LTUDT06/54SE / NR 2006:54