

Layth K. Hamad | Curriculum Vitae

Senior IoT Systems Applied Research Engineer,
Internet of Things and Smart Cities Innovations

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EDUCATION

- 2020 – 2023 **Master of Science in Computing, Computer Engineering.**
Qatar University, collage of engineering.
Graduated with honors in recognition of outstanding academic and research achievements.
and GPA of 4.0/4.0.
"Object Depth and Size Estimation Using Stereo-Vision and Integration With SLAM"
- 2010 – 2016 **Bachelor of Science in Computer Engineering**
Jordan University of Science and Technology, Irbid (Jordan).

WORK EXPERIENCE

- 10/2019 – Present **Senior IoT R&D Systems Engineer, Internet of Things and Smart Cities Innovations**
QMIC – Qatar Mobility Innovations Center, Qatar, Doha, QSTP
(QMIC, an independent branch of Qatar University)

Product Management Responsibilities:

- Develop and execute strategies for IoT product development and deployment, aligning with the organization's goals and market demands.
- Collaborate with cross-functional teams, including sales, marketing, and engineering, to define product requirements, features, and functionalities.
- Conduct market research and analysis to identify emerging trends, customer needs, and competitive landscape, providing insights for product enhancements and innovations.
- Define product roadmaps, prioritize feature development, and manage product lifecycles from ideation to end-of-life.
- Drive product testing and validation processes, ensuring compliance with industry standards and regulations.
- Engage with customers, partners, and stakeholders to gather feedback, understand their requirements, and address any issues or concerns.
- Monitor product performance, analyze usage data, and derive actionable insights to continuously improve product offerings.

Technical Development Responsibilities:

- Lead the design and architecture of IoT systems, integrating hardware, software, and network components to enable smart city solutions.
- Research and evaluate emerging technologies, protocols, and standards related to IoT and smart city infrastructure, ensuring technical relevance and innovation.
- Develop proof-of-concept prototypes and conduct feasibility studies to assess the viability and scalability of IoT solutions.
- Collaborate with hardware and software engineering teams to define technical specifications, system requirements, and implementation plans.
- Oversee the development and testing of IoT systems, ensuring adherence to quality standards, performance optimization, and security protocols.
- Troubleshoot technical issues, provide guidance, and resolve complex problems during the development and deployment phases.
- Stay updated with industry trends, best practices, and advancements in IoT and smart city technologies, sharing knowledge and fostering a culture of continuous learning within the team.

Products/Projects:

- Labeeb IoT Platform and Labeeb Enterprise Framework. **(Product Manager, Hardware Product Design and Development)**
- WaveTraf – Real Time Traffic monitoring devices network deployed in Qatar. **(Hardware Product Design and Development)**
- HUMIDEX – Smart Heat Stress Monitoring for workers safety **(Product Manager, Hardware Product Design and Development)**

- 4/2016 – 10/2019 **IoT R&D System Engineer, Computer Engineering**
 QMIC – Qatar Mobility Innovations Center, Qatar, Doha, QSTP
 (QMIC, an independent branch of Qatar University)

- 3/2016 – 4/2016 **IoT Engineer, Computer Engineering Intern**
 QMIC – Qatar Mobility Innovations Center, Qatar, Doha, QSTP
 Selected to intern due to first place winner on AINAC MENA Innovation Competition.

- 2010 - 2011 **Graphic Design Trainer**
 PSD Development Center, Irbid (Jordan)

- 2012 - 2013 **Freelancer Web and Graphic Designer and Developer**
 ASD Design Center, PSD Development Center as Web Designer, Irbid (Jordan)

HONORS AND AWARDS

- 5/2023 **Qatar University, Creativity & Innovation Forum for Engineering Solutions Development, 2nd Place graduate student award, 2023.**
 For inventing: “Haris: An Advanced Autonomous Mobile Inspection Robot”, pending paper publication.

- 9/2021 **Finalist of “Stars of Science” TV show, season 13, with the invention of “MasKit”**
 Made it to the final stages of the popular TV show “Stars of Science”; an initiative by Qatar Foundation, which showcases scientific inventions and inventors. Developed Maskit, a cutting-edge smart face mask tracker that transforms any ordinary face mask into a connected smart mask. Additionally, created a sterilization box specifically designed for face masks. The show has been aired on over 8 regional TV channels.
 Please check at: bit.ly/3dqahoV

- 6/2016 **Worldwide 3rd place in Global Innovation through Science and Technology competition**
 San Francisco, Silicon Valley, Stanford University

- 12/2015 **First Place Award in MENA region, with Arab Innovation Network**
 Electronic Devices Design competition**
 For Designing the Clev-G, IoT Device.
 ** AIN is A registered charity in England & Wales.

- 12/2015 **First Place Award, Jordan 1st maker IoT competition, Intel.**
 For Designing the Clev-G, IoT Device.

PUBLICATIONS

- 4/2024 **Object Depth and Size Estimation Using Stereo-Vision and Integration With SLAM**
 IEEE Sensors Letters Journal
 DOI:10.1109/LSENS.2024.3367956

- 1/2024 **Haris: an Advanced Autonomous Mobile Robot for Smart Parking Assistance**
 2024 IEEE International Conference on Consumer Electronics (ICCE)
 DOI:10.1109/ICCE59016.2024.10444311

TRAININGS

- 6/2016 **GIST Entrepreneurship Summit and Training**
 Stanford University, San Francisco, Silicon Valley

- 6/2015 **Intel Electronics Design Technical Training using Intel Galileo SoC Controller**
 Intel Corporation, Amman (Jordan)
 80 hours of electronic design technical training and using Intel Galileo Development Kit.

- 5/2015 **Intel Ideation (idea generation) Camp**
 Intel, Beyond Excellence, Amman (Jordan).

- 9/2014 **Embedded Microcontrollers Systems Design and Wireless Communication Protocols (Zigbee, Bluetooth, Wi-Fi).**

Building embedded microcontrollers systems using PIC and Mikrobasic program language and with certified 40 hours training.

7/2014 Digital Participation Camp (Germany)

Münster (Germany)

The Digital Participation Camp (DPC) aims at creating an active international network of digital innovators, social entrepreneurs, designers, developers, and content creators to unite skills and work together on digital projects for social good.

7/2010 Google Student Ambassador

Google - Cairo office, Cairo (Egypt)

Selected by Google to be its ambassador in my university and got a full week training in Google office.

INNOVATION PROJECTS

5/2023 Haris Robot

An AI-Enabled, Advanced Autonomous Mobile Inspection Robot

9/2021 Maskit, a Smart Face Mask Kit

Maskit is a smart face mask tracker to convert any face mask to a smart connected mask, and portable sterilization box specially made for face masks.

2/2017 Libra Smart Home Kit

Libra is a home automation and smart home devices manufacturing startup, provides Wi-Fi-enabled sensing and controlling devices, and focuses on smart consumable products detectors, enabling the direct and automated connection to product suppliers. We connect new "THINGS" to the internet such: LPG gas cylinders, water tanks, water gallons, etc.

10/2015 Invention of Clev-G (IoT)

An LPG (GAS cylinder) online Track, Refill ordering, and safety device, for more details, project video: goo.gl/WZoI5x

2015 ROVA Robot

ROVA project is remotely operated vehicle controlled over internet, developed, and designed as a senior project.

TECHNICAL SKILLS

- Prototyping programming languages: C++, C#, JAVA, Python, JavaScript, Node.JS, PHP, R Script Language and HTML.
- Blockchain DAPP integration with IoT.
- IoT Communication standards and protocols: MQTT, COAP, LWM2M.
- Wireless technologies: Bluetooth Low Energy (BLE), 802.15.4, Zigbee, LoRa and experience in AT command interfaces.
- API's/Frameworks and IoT plugins implantation.
- Databases: MySQL, PostgreSQL.
- Experience in electronics, sensors, and digital circuits design.
- Linux / UNIX operating systems.
- Experience in firmware / embedded software development kits (PIC, ESP32, ESP8266, ARDUINO, Raspberry pi, Intel Galileo and Edison).
- Good experience and understanding in I/O interfaces and Analogue/Digital Signals.
- Ability to read and interpret datasheets and schematics.
- Graphic Design (Photoshop professional), Video and film making (Adobe premiere) (Hobby).