

Cezar Chirila

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www.cezarchirila.com

PERSONAL INFORMATION

Nationality: Romanian, eligible to work in the UK (indefinite leave status)

Location: Nottingham (willing to relocate)

PROFILE

Embedded Electronics Engineer with a first-class MSc in Electrical and Electronic Engineering from the University of Nottingham, with 2.5 years of professional experience in the field and a large personal project base including award winning projects and numerous technical articles published online.

Driven by a genuine desire to help, enthusiasm and reliability. Proficient communication skills bridging the technical and managerial sides of a project to ensure its success from idea to schematic and finally manufacturing. Focused on attention to detail and a highly organized team player, as well as confident to work independently to deliver projects on time.

WORK EXPERIENCE AND ACCOMPLISHMENTS

Embedded Electronics Engineer at Ignys	Jun 2019 - Present
Embedded hardware and software design at a consultancy firm in Nottingham	

Student Engineer at BuildTestSolutions	Jan-May 2019
Work placement via Postgraduate Placements Network	

Hardware Engineer at Continental	Aug-Oct 2017
Internship at Continental Automotive Systems, Sibiu in Powertrain division	

Writer at AllAboutCircuits.com	2016 – present
Writing technical articles and documenting various personal projects	

First prize winner* Student Symposium on Electronics and Telecommunications	Spring 2018
Participated with diploma project: Thermal Imaging Camera	
*Have also received <i>Best project award</i> from Bosch representatives for the same project	

First prize winner (team effort) Polihack – Embedded Section	Spring 2016
Designed and built a fall detection device for the elderly	

EDUCATION

University of Nottingham	Nottingham, UK
<i>Electrical and Electronic Engineering (MSc)</i>	2018-2019
Distinction (Grade: 85/100)	

Technical University of Cluj-Napoca	Cluj-Napoca, RO
<i>Electronics, Telecommunications and the Information Technology (BSc)</i>	2014-2018
<i>Specialisation: Applied electronics taught in English</i>	
Grade: 10/10	

Languages

English: Fluent, Level C2 IELTS Academic - 8.5 Overall (Nov 2017); Level C1, CAE - Grade B (Jun 2013)

Romanian: First language

SKILLS AND EXPERTISE

Hardware

- **Analog and Digital circuit design:** Power electronics, ultra-low power and microcontroller-based products with various sensors and communication channels (RS-485, Ethernet, WiFi, Sub-1GHz radio)
- **IoT hardware and software** IoT Gateways with ethernet connectivity and IoT edge devices
- **PCB and Schematic Design** – Altium Designer (professional experience), KiCAD; High-speed impedance-controlled PCB design (USB, Ethernet, PCIe, RMII, Sub 1-GHz RF), differential pairs, 8-layer PCBs with blind / buried / uVias, Flex PCBs.
- **Electronic Design Simulation** Various SPICE simulators (such as LTSpice) and PSIM;
- **Design for Manufacturing** experience and **Automated Test Equipment** design; Developed test solutions both as hardware (low power measurements, power supply multiplexing, IO manipulation, programming solutions) as well as software (Python based GUI application for UUT programming, configuring and testing on embedded Linux). Advocate CI/CD with real hardware testing.
- **SoM carrier board** (mainly Raspberry Pi compute module) design and bring-up experience;

Software

- **Programming:** C (Advanced) MCU experience: ARM Cortex M0/M4 – STM32, EFM32, Atmel ATSAM; PIC32, ESP32 – Bare metal and freeRTOS, Python (Intermediate, GUI interfaces), HTML / CSS3 / JavaScript (Intermediate); C++ - Embedded Linux userland applications; Knowledge of CI/CD pipelines and development environments best practices ([published article](#)).
- **IoT Software:** Azure IoT certified developer (see certificates) and knowledge of AWS IoT Core and Google IoT Core. Device security and provisioning using public-key cryptography;
- **3D design:** Autodesk Fusion 360 and 3D printing: extensive hardware knowledge;
- **Media:** Photoshop (image processing), Sony Vegas (video editing).

Experience working with quality management systems (ISO9001) and implementing quality forms, checklists and processes to ensure both the hardware and software of a product are being developed to a high standard.

TRAINING AND CERTIFICATIONS

Microsoft Certification: Azure IoT Developer Specialty (AZ-220)

February 2021

Valid until February 2023

PERSONAL PROJECTS

Personal Projects documented on my website

www.cezarchirila.com:

- NAS based on CM4 with a two-bay drive using a PCIe to SATA controller (WIP not yet published)
- Advanced Thermal Imaging Camera using MLX90640 (MSc Project);
- Thermal Imaging Camera using MLX90621 ([diploma project](#)) [IEEE Paper](#);
- Built 3D printer following the Reprap project;
- LED matrix coffee table;
- ESP8266 Wi-Fi login sketch;

Technical Articles and Projects designed and documented for www.allaboutcircuits.com:

- Do-It-Yourself Soldering Station with an ATmega8;
- Function Generator using dedicated IC, Analog Devices AD9833;
- House-Monitoring Framework with Arduino and Raspberry Pi: The Paranoid App;
- Driving LED arrays with AVR (Arduino);
- How to design a discrete Class-D power amplifier;
- DIY Arduino-Based Sous-Vide Machine.

REFERENCES

Available upon request.