Piotr Walas
Software Engineer

Europe/London

Contact Information

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https://www.linkedin.com/in/piotrwalas/

Work samples

https://github.com/PeterWallace

https://www.codewars.com/users/W4ll4c3

Skills

C/C++, Python, Linux, Git, Electronics,
Embedded Devices, Algorithms, Signal Processing, Multithreading/Multiprocessing, JS/html.

Languages

Polish - native speaker
English - fluent
Russian - basic

Education

Brunel University
September 2019 - September 2020
Master of Science in Advanced Electronics and Electrical Engineering - finished with Distinction.

AGH University of Science and Technology
September 2015 - February 2019
Engineering in Electronics (BSc) - overall grade 4.0/5.0

Experience

Emteq Labs United Kingdom:
May 2022 - Now
Wearable device for performing affective computing - Firmware/Software Engineer (Full-Time)

Software engineer responsible for research and development activities in relation to OcoSense glasses (affective computing glasses):

- developing and maintaining firmware and related software - **C/C++**,
- Maintaining SDK,
- Integration of C++ codebase with iOS Swift App
- building test scripts - **Python**,
- design decisions and validation for new platforms

Cellxion Ltd. United Kingdom:
September 2020 - May 2022
VPN network and RF DSP algorithms - Software Engineer (Full-Time)

Software engineer responsible for maintenance of QRMS/QMTS project and development of DSP algorithms for phased arrays.

- developing and maintaining embedded linux hardware vpn nodes - **C**,
- developing and maintaining high efficient vpn server - **C**,
- web based user interface - Javascript, Html,
- implementation of RF direction finding algorithms for phased arrays - **C++, Python**

Projects via Freelancer.com (Freelancing):
September 2019 - September 2020

Freelancer Software Engineer delivering custom software from embedded applications to web based automation. My account with feedback for some of projects can be found under this link: https://www.freelancer.pl/u/PeterWa11ace

- (currently working on) IoT distance sensor - preparing IoT device on ESP32 chip with MQTT protocol for communication, simple web server, and ultrasonic distance sensor - Javascript, **MicroPython**
- nRF52 Bluetooth low energy library for SoftDevice driver - custom library for easy access to BLE features in nRF52 chip with SoftDevice - Bare Metal development, **C/C++**
- Online Data Scraping - Selenium based web automation software for cataloging web shows - Selenium, **Python**
- Wiegand Protocol over IP - Embedded Linux based device for accessing card reader with wiegand protocol over IP - Embedded Linux, **Python**
- Automated Trading Data Monitoring - Selenium based software focused on tracking trading data - Selenium, **Python**

Assa Abloy Poland:
September 2018 - September 2019
Embedded Linux Project - Embedded Software Engineer (Intern/Full-Time)

Embedded Software Engineer responsible for delivering custom Embedded Linux solution for IoT Gateway.

- Quality Assurance - preparing test cases for embedded linux device, **Python, Bash**
- Tests Automation - automation of testing process, adding remote access to testing network, **Python, Bash**
- Development of Linux scripts - preparing scripts for execution for testing and maintenance purposes, **Bash**
- Bare metal drivers - writing drivers for devices to control testing setup and interfacing with the device under tests, **C/C++**
- Linux daemon - for monitoring update process, **C/C++**
- Hardware testing and prototyping - prototyping and testing hardware

Aptiv Poland
May 2018 - September 2018
Active Safety and User Experience - Electronic Engineering Intern

Electronic Engineering Intern focused on supporting team producing millimeter wave radar systems.

- Manual Testing - using measurement equipment including oscilloscopes, multimeters, solder stations,
- Circuit designing and simulations - done in LTspice and Mentor Graphics

Publications

- OCOsense - smart glasses for analyzing facial expression using optomyographic sensors [2023]
- Acoustic source localization using drone-embedded microphone array [2019]
- Intelligent vision system for controlling traffic lights at intersection entrances [2018]

University Projects

- **Brunel University: Master's Thesis - RF-Based person identification**
  Improving methods for person identification, based only on radio wave reflections using IEEE 802.11 standards.
  GNURadio, USRP, **Python**

- **Brunel University:** Brunel Robotic Engineering Society - Student Rocket project:
  Embedded Software architecture for flight computer for student rocket.
  I2C, SPI, C/C++

- **AGH UST: Bachelor's Thesis - Localisation source of sound in IoT systems**
  Creating algorithms for self adjusting sensors array built with IoT mesh network using acoustic channel for communication.
  Python

- **AGH UST:** Signal Processing Cup 2019 - AGH Team:
  Algorithms for sound and spectrogram processing development for Signal Processing competition SPCup2019.
  Implementation of MUltiple SIgnal Classification (MUSIC) algorithm. https://doi.org/10.1121/1.5137614
  Jupyter, **Python**

- **AGH UST:** Intelligent vision control system at traffic lights on intersection:
  Research of algorithms for detection of cars and speed measurement for traffic intersection control.
  https://yadda.icm.edu.pl/baztech/element/bwmeta1.element.baztech-c063fb29-b782-4f48-94cf-88ed10e0f249
  C++