





ROBYN VAUGHAN- WILLIAMS

Software Engineer

 Bobyn.me
 bobrobynvw@gmail.com
 +44 07460 666698
 Aberystwyth

WHO AM I?

Graduate from Aberystwyth university, passionate about robotics, FOSS, some other thing?

Experience producing bespoke products for a variety of companies, primarily in the agricultural research space, alongside in-house projects.



EXPERIENCE

- 9/2023 – Present **Assistant Electronics and Software Engineer** Ystumtec
The Majority of my fulltime employment with Ystumtec was spent developing software for the Fjord Autonomous Underwater Vehicle (FAUV), a submarine intended to perform long distance/duration missions surveying fjords in Greenland.
- 6/2021 – 7/2022 **Industrial Year**
During my industrial year, I worked on embedded low power devices including long term animal GPS trackers, early warning invasive moth detectors to protect crop using GSM and user interface and communication layer for crop spray test equipment.
Python / Embedded C / Java / Hardware Assembly
- July-August 2018 **Nuffield Photonics project provider (mentor) with PAWB** Photonics Academy of Wales at Bangor
Assisting summer school students in envisioning, designing, fault finding of electronic circuits and testing their opto-electronic photonics ideas.
Electronics / Photonics
- 2012-2020 **General assistant** The Independent Inspection Service
Assisting with LOLER inspections (PPE and Lifting equipment) by testing equipment and checking for defects and deterioration and ensuring all equipment was up to standards that complied with the law, weekends and holidays.
Health and safety in the workplace / Equipment inspection

EDUCATION

- 2018 – 2023 **Space Science and Robotics^{BSc} 2:1** Aberystwyth University
Joint honors degree between the department of physics and computer science. Focus on sensors and instrumentation, scientific python, embedded C, robotic operating system (ROS).
During this time I was also the two time president of the robotics society.
C&C++ / Python / ROS / Electronics and instrumentation
- 2015-2017 **BTEC level 3 Diploma in Electronic Engineering, Grade: Distinction*** Coleg Menai Bangor
A course focusing on producing mechanical engineering Drawings with CAD/CAM (Solidworks, Fusion 360), designing, etching and populating PCBs and producing components using hand fitting techniques.
Electronics / CAD&CAM / Workshop tools /

REFERENCES

Mark Neal
CEO & lead engineer
Ystumtec
Email

Alun Jones
Role
Ystumtec
alun@ystumtec.co.uk

WORK PROJECTS FURTHER DETAIL

2023 – Present	Fjord Autonomous Underwater Vehicle (FAUV) Created components of a bespoke control system including an occupancy grid built from sonar data, path planner, navigation and obstacle avoidance system to enable the FAUV to navigate its underwater environment. Created an ecosystem of daemons that leveraged MQTT to interface with microcontrollers, sensors and control surfaces to create a modular crash resistant infrastructure. Created bespoke simulation of the expected working environment including physics (buoyancy, drag, inertia, etc), hardware (movement of control surfaces) and sensor behavior (Sonar, IMU, DVL). Python / Raspberry pi / Linux	Ystumtec
2024	Robot Arm Prototyped a bespoke system that would enable the user to batch process chemical analysis. Produced a GUI and backend that would control a xArm robotic arm to process samples based on user set parameters. Python / wxPython / xArm api	Ystumtec
2021 – 2022	Moth trap Developed embedded C code for a GSM enabled IR motion based moth sensor intended to act as an early warning system for a swarming species of invasive moth in the Tamil Nadu region of India. Arduino & embedded C / GSM	Ystumtec
2021 – 2022	XY Spray rig Worked on a bespoke 2 axis crop spray tester for laboratory conditions. Used Java to produce a GUI that allowed the user to specify where on the crop was to be sprayed by clicking on images of the crop, and the associated backend to communicate commands to the spray rig to carry out its operation. Java / JavaFX / Arduino & embedded C	Ystumtec
2021 – 2022	GPS collar Prototyped a GPS animal collar for research on tame and wild animals, included collars, remote basestations and handheld interface device. Used embedded C to handle low power device operation, GPS handling, memory management, radio data download, remote collar release. Arduino & embedded C / Soldering / 3D Modelling	Ystumtec

PERSONAL PROJECTS

Slime VR trackers

Manufactured a full body set of slime VR trackers for myself and a friend, intend to contribute to the open source tracking software.
Soldering / PlatformIO / VR

Reused vape battery bank

Manufactured a battery bank out of improperly disposed of vape batteries based on open source designs. This involved manufacturing PCBs, safe disassembly of the used vapes and assembly of battery bank.
Soldering / Open Source

Homelab

Maintain a homelab for private instances of Immich and Nextcloud for home file storage and backup using Docker.
Linux / Docker / Lighttpd

Laser based Navigational Compass

During my time with PAWB, I produced a working prototype of a novel compass design that made use of a non dispersive Amci roof prism to digitise a magnetic compass bearing.
Soldering / Circuit Design / Photonics

SKILLS

Driving license - Fully qualified
Hand tools & soldering
English - Native
Welsh - Simple

HOBBIES

In my spare time, I enjoy baking for my DnD group, reading science fiction, spending time in VR, developing content for VRchat and appreciating the beautiful outdoors around Aberystwyth.