JAMES BENNION-PEDLEY

Embedded Electronics Engineer

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Hi, I'm James. I'm an Embedded Electronics Engineer currently working at **Dyson Ltd**. I work in a department focusing on new technologies for Dyson's future product lines, applying the latest research and helping design engineers realise their ideas!

Strictly speaking, I am an electronics firmware specialist, however from day to day I tend to dabble in everything from integrated PCB design to Cloud Architecture to Web Frontends & Graphic Design *(taking the definition of "full stack developer" to its extremes!)*

The nature of my job means I can't share the exact details of what I get up to from 9 till 5. However, if you want to get an idea, you can check out my hobby projects! I've always got a project on the go, plus I'm involved in a handful of open-source projects. I publish many of my projects online, under the Internet Moniker @BOJIT.

I'm an automation freak – I like to make tools that will make mine and my colleagues' life easier. My latest creation is "**ploTTY**", an interactive flow-based serial plotting/debugging tool that is designed as a replacement for LabView. You can check that out at plotty.bojit.org.

In my spare time I enjoy hiking, camping and cycling; I play guitar, piano, and the violin. You can check out some of the instruments I've built here.

PRIOR WORK & EXPERIENCE

June 2023 → Present: Embedded Electronics Engineer, Technology Research Dept., *Dyson Ltd.*

In this role I am responsible for proving the feasibility of new technologies in a consumer product setting. The job covers everything from initial proof-of-concept rigs to design-for-manufacture studies.

September 2021 → June 2023: Embedded Software, Upstream Robotics, *Dyson Ltd.*

This position was in a small 4-person team creating embedded platforms for Dyson's future robotics research. The work is fast paced, so a good understanding of codebase simplification and multi-repository version management was paramount.

September 2019 → September 2021: General Engineering Rotations, *Dyson Ltd.*

My first two years at Dyson were comprised of four-month placements in various engineering functions: I worked in the following teams:

- Power Electronics and Energy Storage
- NPI Software Team: Embedded
- Technology Development: Structural Analysis
- Tech Research: Motors and Rotor dynamics
- Tech Research: Embedded Sensing
- NPI Wearables: Design Engineering

2015 → 2019: Head Technician, Poole and Parkstone Grammar School. Responsibilities include AV installations and equipment maintenance/repairs as well as theatre productions and concerts.

2018: One-Week volunteering with *Revitalise*, caring for adults with disabilities *[revitalise.org.uk]*

2018: FOH sound engineer for Wimborne Folk Festival.

2017: One-week placement at *Beakbane*, Kidderminster *[beakbane.co.uk]*

2016: Two-Week placement at *Crimson Guitars*, Piddlehinton *[crimsonguitars.com]*

QUALIFICATIONS

Bachelor of Engineering (Hons.) [July 2023]
[Electronics Hardware] – **1st Class.**

Degree Apprenticeship, University of Warwick
Dyson Institute of Engineering and Technology,
[dysoninstitute.com]

A-Levels: [June 2018/ June 2019]

- Mathematics **A***
- Physics **A***
- Product Design **A***
- Electronics **A***
- Further Maths **A***

GCSEs: [June 2017] - **12 A* grade**

AWARDS

2023: Best overall grade in degree – Dyson Institute of Engineering and Technology

2019: Poole Grammar School: Best A-Level results in school

2018: Winner of 'Pembroke Prize', the school award for overall academic excellence.

2017: Arkwright Scholarship *[arkwright.org.uk]*

2014 → 17: Poole Rotary Society district engineering competition – 2 wins out of 4 competitions.

2015: Valter Prize – David Cockbaine Shield *[dorsetasset.org.uk/about-us]*

2015: Team Leader for EDT Go4SET regional design competition, where we came in 1st place overall *[https://www.thecollege.co.uk/news/judgement-day-young-design-engineers]*

ENGINEERING SKILLSETS

Experienced	**Embedded C/C++**	**Svelte/Typescript**	**Git + SCM**	CI/CD + DevOps
Competent	Python / MATLAB	Altium/KiCAD PCB EDA	Electrical Prototyping	NX / 3D CAD
Basic	Cloud Architecture	Embedded DSP	Vector Graphics	
Currently Learning	*Yocto* Linux	Verilog/VHDL		

REFEREES

Reference contacts available upon request.