

Robert (Jamie) Munro

Senior Web Developer, Oxford, United Kingdom

Key skills: TypeScript, JavaScript, NodeJS, React, PHP/MySQL, PostgreSQL, CI/CD

Available for fully remote roles worldwide, or hybrid/remote roles in the UK.

Email: rjmunro@arjam.net

Web: <https://arjam.net/>; LinkedIn: <https://linkedin.com/in/rjmunro>

About me

Highly experienced Senior Web Developer with over 25 years of expertise in full-stack development, specializing in TypeScript, React, and NodeJS. Seeking a hybrid or remote senior role.

For the last 7 years, I have been working as a Senior Developer for an Oxford University spin-off company making tools for developers. Prior to that, I've worked at web agencies making websites for a range of customers; I have also worked as the only web developer at a hardware company, making their customer facing website, and I have worked as one of a team of web developers developing a single web application used by hundreds of Estate Agents.

I like to help people I work with, in particular with Git issues, asset optimisation and code architecture. I'm very good at optimising the process of software engineering using tools around Git, GitHub, CI, static analysis, linting and I like to work in agile coding environments.

Work history

Senior Web Developer – Diffblue: July 2016 → March 2024

NodeJS, TypeScript, React, Visx, Java, Docker, GitHub, GitLab, Continuous Integration, Git

Diffblue automatically generates unit tests for code using AI assisted code fuzzing. The service is autonomous, so the tests always compile and pass, and can be run locally on a user's system. I was a Senior Developer working on building plug-ins connecting the *Diffblue* developer tools to continuous integration and source control systems.

SaaS project

Initially Diffblue planned to launch a SaaS product where users could upload their project to Diffblue servers and we would write the tests for them. I worked on the backend and some of the front end which was written in NodeJS and orchestrated docker containers to build the user's code and run the test generation engines. When we showed this to customers, they were not keen for us to have control of their code, and we realised that securely maintaining servers that run user's code was a difficult problem that we did not need to be involved in, so we pivoted to a product that can be run on site.

Diffblue Cover

Diffblue Cover is the second iteration which is designed to be run on infrastructure controlled entirely by the user. It is available as an IntelliJ plugin where you can write tests automatically straight from your IDE, and as a CLI for bulk usage. Additionally I worked on integrating Diffblue's tools with CI, principally with GitLab, Jenkins and GitHub actions. This included running the system on itself to generate its own tests (dogfooding), from which we as a company learned a lot about how a real user could use our product.

Diffblue Cover Reports

Most recently I have been working on *Diffblue Cover Reports*, a web application that takes logs from *Diffblue Cover*, and coverage tools, loads them into an SQL database and displays information about your program.

The backend was originally based on Redash, an open source data reporting framework. I wrote a tool that dumped config from Redash as SQL and Yaml files that we could commit to a Git repository and reload (<https://github.com/diffblue/redash-loader>). We hid Redash from end users by embedding its widgets into our own NextJS / React front end.

Over time, the Redash back end was replaced with charts created directly in the React front end. This was initially done to support visualisations that Redash could not produce, but was eventually expanded to replace Redash entirely. I evaluated several graphing libraries and chose Visx because it's based on the popular D3 but using React to integrate with the DOM rather than D3's built in method which doesn't integrate well with React. Among other parts, I implemented a zoomable Treemap chart that showed both the amount of code and its coverage.

Senior Web Developer – White October (web agency): 2012 → 2016

JavaScript, AngularJS, React, Symfony2, PHP, Cordova, Google App Engine, Python, NodeJS, Git

I developed websites using NodeJS, Symfony 2 and Google App engine on the back end, with React, AngularJS and jQuery based front ends. A few examples:

Ultimate Player

AngularJS, NodeJS, Sequelize, ExpressJS, PostgreSQL, Heroku, Bootstrap

Ultimate Player was an inclusive program that inspired kids to be more active and focus on developing sports related skills. I was one of the main developers on this project working on the full stack from SQL queries to the front end CSS.

MyPace

Cordova, PHP, Symfony2, JQuery-mobile, MySQL

MyPace was a web app for dietitians and a smartphone app for their clients to assist clients in achieving their goals by using behaviour change theory. I was the main developer on the project, writing both front end and back end code.

GBK App | Gourmet Burger Kitchen Ltd

PhoneGap, JavaScript, JQuery-mobile, LawnChair

I joined this project when it was supposed to be close to launching, but it was not ready. I worked on fixing bugs and working on deployment and hosting. Once it was launched, I worked on cleaning, optimising and adding new features to the code for the next few releases.

24/7 Bike Claim Assistant for iPhone

JavaScript, JQuery, JQuery-mobile, ExpressJS

Bike Claims was a new and easy way to submit your Motorbike insurance claim after an accident. It asks the questions you need to record and logs the location of the scene using GPS. I was the solo developer of this app, with assistance from a designer.

Web Developer – Focusrite / Novation: 2011 → 2012

PHP, MySQL, Apache, Git-SVN

Focusrite makes audio hardware for musicians and studios, such as the top selling USB audio interface under their Focusrite brand and MIDI controllers and keyboards under their Novation brand.

I maintained and improved the legacy focusrite.com, novationmusic.com and focusrite-estore.com websites, including user and product registration and knowledgebase, and e-commerce functionality.

I wrote several small facebook applications for competitions. I was involved in a project to start replacing the legacy sites with Drupal and Symfony2.

Web Developer – Jupix Ltd: 2010 → 2011

PHP, MySQL, Git, Linux, JavaScript, JQuery

Jupix developed an online CRM system and web sites for Estate Agents.

I implemented Git source control on the main code base, including training other developers on how to use it. This helped facilitate development by enabling new features to be developed in parallel, and then merged together as they became ready. It also made code review much easier.

I encouraged the use of jQuery to greatly enhance and simplify JavaScript development, and introduce more AJAX to the system.

I researched and led development of customised iPhone apps for our clients using jqTouch and PhoneGap.

I was heavily involved in reverse engineering other systems to import the data, and wrote a system to help develop large complicated SQL queries to convert data from users' previous data structures to the Jupix structure. I also imported data by scraping from websites using python and BeautifulSoup.

Web Developer – Text Matters (web agency): 2002 → 2009

Python, MySQL, PostgreSQL, Linux, Debian, JQuery

I developed several websites in association with Text Matters which involved content management systems using the Plone content management system and writing a proprietary Zope/Python based content management system called JECM.

Many of these sites are integrated with membership databases so that members of the organisation can log in, post messages and update their details with the organisation generally. These included:

BSSH <http://www.bssh.ac.uk/>; IMIS <http://www.imis.org.uk> JECM content management sites with membership areas, members forums etc.

NCLL; HCSA JECM sites and the membership databases themselves. HCSA included a confidential area where doctors can securely post messages about employment and other personal issues.

Skills Active <http://www.skillsactive.com>; Abingdon and Witney College <http://abingdonwitney.ac.uk/> Plone CMS sites with customisations and additions.

Developer / Sysadmin – Viva Network (charity): 1998 → 2004

DBase, Windows, PHP, MySQL, Firebird

I made the first website for <http://www.viva.org/> then worked on their very old DOS-based VivaNet DBase database system. I brought programming experience, instituted source control and refactoring and improved the system to be a lot more usable and maintainable.

We set up a replication system so that all changes to the data would be stored in a log, all the logs were sent to a central file server, then read into the master database, with any conflicts resolved when they were found. A new dataset was then sent out to the client machines.

Open source projects

In the past I've written a few open source projects, but haven't had time to do much recently.

Cordova-plugin-app-version

<https://github.com/whiteoctober/cordova-plugin-app-version>

JavaScript, iOS, Android

Cordova plugin to return the version number of the current app

I initiated this project because I was surprised that there was no built-in way to read the current version of a Cordova app from the build metadata, even though most platforms provide the facility.

It seems I was not the only person who wanted this feature, and the project had up to 1000 downloads per month.

pyLaunchpad

<https://github.com/rjmunro/pyLaunchpad>

Python

Python interface for the Novation Launchpad

This was written at an internal hack day while working for Novation, and refined a bit in my spare time. The launchpad consists of a grid of 80 buttons, each one with controllable red and green LEDs behind. We wanted to write scrolling marketing text across several launchpad devices. This library makes it easy to write applications like that in python, and also includes some examples.

More about me

I love to spend time with my wife and 3 children, we particularly like steam trains, miniature railways and Lego.

Pre children, I contributed to several Open Database projects over the years – Open Street Map <https://www.openstreetmap.org/>, MusicBrainz <https://www.musicbrainz.org/>, and Theatricalia <https://www.theatricalia.com/>. Contributing both to content, discussion forums and meetings.

I've been doing sound engineering since I was a young teenager. I am a volunteer sound & video engineer at St Aldate's church, both for Sunday services and other events, I have also trained others. Since lockdown I have been one of the team that runs the church live streams on YouTube, initially from home using a tool called Stage10 to mix remote feeds from many contributors, and now directing productions in the church using up to 6 cameras, several computer feeds with words and video clips and ATEM video switching equipment. We have about 4000 subscribers on YouTube.