



Luke Benjamin Ellis MChem

Multidisciplinary Scientist and Programmer: Bridging the Gap Between Chemistry, Environmental Science, and Digital Innovation

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Summary

As an experienced web developer, I excel in bringing innovative e-commerce and custom web solutions to life, leveraging a diverse skill set across Magento 2, WordPress (with Roots Sage, Bedrock, and DDEV), React, Vue.js, Nuxt.js, and Tailwind CSS. My ability to translate Adobe XD designs into visually striking and functional websites underscores my commitment to delivering exceptional digital experiences. My background is uniquely complemented by a Master's degree in Chemistry and a broad professional experience, fostering a curiosity-driven approach to problem-solving and an adaptability that thrives on new challenges.

In 2023, I founded PixelCodeLab Ltd., a freelance venture focused on crafting bespoke digital solutions. Through PixelCodeLab, I've developed responsive, efficient, and engaging web applications and sites that meet the specific needs of diverse clients, from restaurant owners to retail businesses. My dedication to continuous learning and staying at the forefront of technology equips me to deliver projects that not only satisfy current demands but are poised for future growth.

This synthesis of technical expertise, creative problem-solving, and a continuous pursuit of knowledge defines my approach to web development, positioning me as a developer ready to contribute significantly to any project. For a more full and complete picture of my professional experience, please visit my website at <https://lukeellis.me>. The scope of this CV is to highlight my skills as a developer, while my website provides a comprehensive overview of my professional journey and achievements.

Programming Languages

HTML ●●●●●●	Javascript ●●●●●□	PHP ●●●●●□	Python ●●●●●□	Tailwind CSS ●●●●●●
React.js ●●●●●□	Node.js ●●●●●□	Nuxt.js ●●●●●□		

Experience

PixelCodeLab Ltd Managing Director https://pixelcodelab.co.uk	April 2023 - Present Exeter
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At PixelCodeLab Ltd., my role as the founder and lead developer focuses on delivering high-quality single-page applications (SPAs) and comprehensive digital solutions. Specialising in technologies such as React, Vue.js, Nuxt.js, Next.js, and Tailwind CSS, I craft bespoke front-end and back-end systems, including projects like a restaurant app with an integrated booking system. Hosting primarily on Vercel, I ensure each project is not only visually appealing but also robust and scalable.

Although PixelCodeLab does not provide a full-time salary and caters to a select group of clients, it has successfully funded my travels, offering a unique blend of professional growth and personal freedom. This role has afforded me the luxury of time—to dive deep into the latest development practices, continuously expand my skill set, and stay abreast of industry trends. Through PixelCodeLab, I am committed to exploring the cutting edge of web development, ensuring that every project not only meets but exceeds client expectations.

GSL Media LTD Senior PHP Developer https://www.gslmedia.co.uk/	August 2023- March 2024 Plymouth UK
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In my role as a Senior PHP Developer at GSL Media, I specialised in transforming detailed designs into fully functional websites, utilising a robust tech stack comprising DDEV, Roots Sage, Bedrock, and Tailwind CSS. Tasked with coding from providing Adobe XD designs, I dedicated myself to ensuring that each project was brought to life with precision and aligned closely with our clients' expectations.

This position demanded a strong proficiency in PHP and a commitment to high-quality web development practices, enabling me to significantly contribute to the team's efforts in delivering scalable and aesthetically pleasing digital solutions. My tenure at GSL Media was marked by a fast-paced and challenging environment where I honed my skills in web development, refined my ability to work under pressure, and cultivated a deeper understanding of client-centric project execution.

Nexus Agencies Ltd Full Stack Developer https://pearlgallery.co.uk	2018- 2023 Remote
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At Nexus Agencies Ltd, I embraced the role of a Magento 2 Developer, marking a significant transition in my career. This position immersed me in the intricate world of e-commerce, where I was tasked with customising Magento 2 to suit the specialised demands of our retail and wholesale jewellery business. My responsibilities ranged from enhancing user experience to fortifying the security and performance of our online platform, challenges that not only honed my skills in PHP and Magento 2 but also highlighted the importance of adaptability and ongoing education in the tech field.

My involvement in developing and refining our e-commerce platform provided me with a profound understanding of digital commerce, encompassing everything from inventory management to devising effective customer engagement strategies. Through this journey, I learned to navigate the complexities of Magento 2, leveraging its capabilities to foster innovation and deliver a seamless online shopping experience that aligns with the dynamic needs of our clientele.

This period at Nexus Agencies Ltd was instrumental in demonstrating the transformative impact of technology on business operations, underscoring my role in driving forward digital solutions that not only meet but exceed customer expectations in the evolving landscape of the digital age.

South West Water Analytical Chemist https://www.southwestwater.co.uk/	October 2020 - September 2021 Exeter, UK
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Environment Agency - NLS Assistant Scientist https://nationallaboratoryservices.com/	2015- 2018 Leeds, UK
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Skills

HTML ●●●●●● Web Markup, HTML5, Semantic HTML, Responsive Layouts, Accessibility Standards, Cross-browser Compatibility, SEO-Friendly Markup, HTML Templates, Multimedia Integration, Web Performance Optimisation	CSS ●●●●●● CSS3, Responsive Design, Flexbox, Grid Layout, CSS Frameworks (Bootstrap, Tailwind CSS), Cross-browser Styling, Animation and Transitions, CSS Variables, Visual Aesthetics, Preprocessors (SASS & LESS), Theme Customisation
Git Version Control ●●●●●● Branching Strategies, Merge and Rebase Techniques, Conflict Resolution, GitFlow Workflow, Pull Requests, Code Review Practices, Repository Management, Git Commands Mastery, Continuous Integration (CI) with Git, Tagging and Releases, Git Hooks, Stashing Changes, Git Blame and Bisect, Secure Git Practices, SSH Key Management, Collaborative Development with GitHub, GitLab, or Bitbucket, Feature Branch Workflow, Git Submodules, Git LFS (Large File Storage), Changelog Management, Semantic Versioning with Git, Codebase Documentation in Git Repositories	Vue.js ●●●●●□ Vue.js Development, Reactive Components, Single-Page Applications (SPA), Vue CLI, Vuex State Management, Vue Router, Component Architecture, Directive Customisation, Composable Functions, Server-Side Rendering (SSR) with Nuxt.js, Reactive Data Binding, Event Handling, Vue.js Plugins, Transition and Animation, Axios for HTTP Requests, Vue DevTools, Template Syntax, Prop and Event Communication, Vue.js Mixins, Performance Optimisation, Scalable Project Structure, Unit Testing with Vue Test Utils, Accessibility Best Practices
React.js ●●●●●□ JSX Syntax, Functional Components, React Hooks, Single-Page Applications (SPA), React Router, State Management (Redux, Context API), Component Lifecycle, Event Handling, React Context for State Management, Prop Drilling, Higher-Order Components, React Testing Library, Server-Side Rendering (SSR) with Next.js, Code Splitting, Optimisation Techniques, React DevTools, Custom Hooks, React Forms and Validation, Accessibility in React, React Animation Libraries, API Integration with Fetch/Axios, React Performance Tuning, Error Boundary Handling	Magento 2 ●●●●●□ Extension Development, E-commerce Solutions, Magento CLI, Layout XML, Magento API Integration, Payment Gateway Integration, Custom Module Development, Performance Optimisation, Security Best Practices, Magento UI Components, Database Management with Magento, Elasticsearch Integration, Full Page Cache Techniques, Magento Backend Configuration, Upgrade and Patch Management, Responsive Design for Magento, Multistore Setup, Catalog Management, Customer Segmentation and Personalisation, Magento Marketplace Extensions, Checkout Process Customisation, Inventory Management Solutions
Wordpress ●●●●●□ Theme Customisation, Plugin Development, Gutenberg Block Editor, WooCommerce Integration, Custom Post Types, Advanced Custom Fields (ACF), WP REST API, WordPress Security Best Practices, Performance Optimisation, SEO for WordPress, Multilingual Websites with WPML, WordPress Hooks (Actions and Filters), Child Themes, Shortcode Development, WordPress Debugging Tools, Website Migration and Backup, Responsive Design for WordPress, User Role Management, WordPress Database Management, Content Management Strategies	PHP ●●●●●□ Magento 2 Customisation, WordPress Development, WooCommerce Integration, Object-Oriented PHP, Plugin Development, Theme Customisation, Security Best Practices, Database Management (MySQL), RESTful API Design, Composer Dependency Management, PHP Unit Testing, Debugging Techniques, E-commerce Solutions, Backend Development, CMS Customisation, Performance Tuning, Cross-Platform Compatibility, Data Validation and Sanitisation
JavaScript (ES6+) ●●●●●□ DOM Manipulation, AJAX, JSON, Front-end Frameworks (React, Vue.js), Node.js, Asynchronous Programming (Promises & async/await), RESTful API Consumption, Web Animation, Cross-browser Compatibility, Event Handling, Responsive Web Design, State Management (Redux & Vuex), Modular Coding, ES Modules, Webpack, Babel, Test-Driven Development (Jest & Mocha), Progressive Web Apps (PWA), Server-Side Rendering (SSR), Client-Side Routing, WebSocket Communication	Python ●●●●●□ PyOpenGL, RDKit, Computational Chemistry, Graphical Rendering, Cheminformatics, Virtual Reality (VR) Integration, Molecular Visualisation Techniques, 3D Interaction, Scientific Software Development, Grant Application Process, Project Management, Digital-Tangible Interface, Science Education Technology, Innovation in Scientific Visualisation
Science Communication and Public Engagement ●●●●●● STEM Ambassador, Science Education, School Engagement, Public Outreach, Workshops, Demonstrations, Interactive Events	Laboratory information management system ●●●●●● data documentation, data analysis, precise reporting, automation, technology in science
Environmental Conservation and Advocacy ●●●●●● Pesticide Impact Research, Environmental Conservation, Sustainability Advocacy, Biodiversity Protection, Policy Advocacy, Sustainable Practices, Wildlife Protection, Community Engagement, Science-Led Environmental Protection	Chemistry Theoretical Knowledge ●●●●●● Quantum Mechanics, Molecular Modeling, Reaction Simulations, Physical Chemistry, Supramolecular Chemistry, Organic Chemistry, Inorganic Chemistry, Biochemistry, Nuclear Chemistry
Analytical Chemistry ●●●●●●	Chemistry: Research and Development ●●●●●□
Metals Analysis of Drinking Water ●●●●●●	Instrument Maintenance & Troubleshooting ●●●●●●

Certifications

Vue.js Certification certificates.dev https://certificates.dev/vuejs	Ongoing	Front-End Development Assessment LinkedIn skills Assessment https://www.linkedin.com/in/lbellis1/details/skills/ <ul style="list-style-type: none">In the top 5% of 1.3M people who took this.	2023
PHP assessment LinkedIn Skills Assessment https://www.linkedin.com/in/lbellis1/details/skills/ <ul style="list-style-type: none">In the top 30% of 890.0k people who took this.	2023	Linux Assessment LinkedIn Skills Assessment <ul style="list-style-type: none">In the top 5% of 1.3M people who took this.	2023
Cascading Style Sheets (CSS) Assessment LinkedIn skills Assessment https://www.linkedin.com/in/lbellis1/details/skills/ <ul style="list-style-type: none">In the top 5% of 2.1M people who took this.	2023	Search Engine Optimisation (SEO) LinkedIn skills Assessment https://www.linkedin.com/in/lbellis1/details/skills/ <ul style="list-style-type: none">In the top 5% of 2.6M people who took this	2023
Microsoft Excel Assessment LinkedIn skills Assessment <ul style="list-style-type: none">In the top 5% of 30.0M people who took this.	2023	Microsoft PowerPoint Assessment LinkedIn skills assessment https://www.linkedin.com/in/lbellis1/details/skills/ <ul style="list-style-type: none">In the top 5% of 11.3M people who took this.	2023
ISO-17025 Awareness Training United Kingdom Accreditation Service https://www.ukas.com/training-and-advisory/training/courses/iso-iec-17025-awareness/	2016	DipHex Chemical Safety DipHex https://www.diphex.com/	2017

Education

University of Bradford Masters in Chemistry	September 2014 - 2015 MChem
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University of Bradford Chemistry	2010-2013 BSc (Hons)
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Projects

ICPMS-DiluteCalc ICPMS-DiluteCalc is a web app i created using Vue.js, for calculating dilutions for ICP-MS analysis. It simplifies sample preparation with user-friendly inputs for concentration and volume, supporting various units. Ideal for chemists and lab technicians seeking precision. https://github.com/lukebellis/ICPMS-DiluteCalc	2024
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Features

- Dilution Factor Calculation:** Automatically calculates the dilution factor needed to bring a sample's concentration within the detection limit of the ICP-MS instrument.

- Volume Calculation:** Determines the exact volumes of sample and solvent required to achieve the desired dilution, optimising accuracy and efficiency in sample preparation.

- Unit Conversion:** Supports various concentration units (µg/L, mg/L, ng/L), allowing for flexible input according to user preference.

QuantumVue QuantumVue is a web application that transforms the way we visualise and comprehend atomic orbitals within quantum mechanics. Built on Vue.js, it offers an engaging, user-friendly platform for exploring the intricate shapes and orientations of atomic orbitals across diverse energy levels, making complex quantum concepts accessible and interactive https://github.com/lukebellis/quantumvue	2023
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Embracing the latest in web technology, QuantumVue stands out as an innovative solution for demystifying the complexities of quantum mechanics through visualisation. By leveraging Vue.js, it provides an intuitive and interactive experience, enabling users to easily explore and understand the fundamental aspects of atomic orbitals. QuantumVue serves as a valuable educational tool, bridging the gap between abstract quantum theories and visual comprehension.

Vue.js, Quantum Mechanics, Web Application, Atomic Orbitals, Visualisation, Educational Tool, Complex Concepts, Intuitive Experience

Asbestos Identification by Polarised Light Microscopy Environment Agency https://vimeo.com/229981785	March 2018
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Asbestos Identification, Polarised Light Microscopy, Environmental Science, Collaboration, Photography, Documentation, Video Production, Video Editing, Public Health, Scientific Analysis

MolVR - Royal Society of Chemistry Research Grant The MolVR project, backed by the Royal Society of Chemistry during my placement year, significantly enhanced my Python skills and familiarity with PyOpenGL and RDKit. This initiative revolutionised molecular visualisation via virtual reality, allowing for immersive interactions with 3D molecular structures, thereby making scientific concepts more accessible. It not only expanded my technical expertise but also affirmed my commitment to blending technology with science to improve educational resources, emphasising innovation and self-reliance. https://github.com/lukebellis/Molvr	2015
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Features:

- 3D Visualisation:** Render molecular structures in 3D from `.mol` files.`
- VR Support:** Experience molecular models in virtual reality for an immersive learning and research tool.
- Cross-Platform:** Built with Python, making it relatively easy to run on various operating systems.
- Extensible:** Open source and designed for easy extension and customisation.

3D Visualisation, VR Support, Molecular Structures, Virtual Reality, Cross-Platform Compatibility, Python Programming, Open Source, Immersive Learning, Research Tool, Extensibility

Co-Crystals and 18-Crown-6 Masters Research Project	September 2014- July 2015
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Master's Degree research Project. Please see my website <https://lukeellis.me> for more details

Volunteering

Friends of the Arboretum Volunteer https://www.newtonwonder.net/friends-of-the-arboretum.html	September 2021- Present Newton St Cyres, Exeter, UK
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STEMNET Ambassador https://www.stem.org.uk/stem-ambassadors	August 2014 to September 2015 Bradford, UK
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Bradford Science Festival Volunteer https://www.scienceandmediamuseum.org.uk/whats-on/bradford-science-festival	October 2013 to December 2014 Bradford, UK
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References

Steve Moss NLS Leeds Laboratory Site Manager, Environment Agency	
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“Luke is really growing in his role and showing us skills that are at a premium and an enthusiasm that should see him have a great future with us. Last week he met with our Executive Director Toby Wilson and spent around 15 minutes showing him some of the tests that we do. Toby was very impressed with Luke, which left me feeling very proud to have him as part of our team.”

Interests

Scientific Analysis	Environmental Conservation	Analytical Techniques	Public Health	Chemical Synthesis
Chemistry Education	Science Communication	STEM Outreach	Programming	Web Development
Open Source Technology	Cross-Platform Development	Motorcycles	Travelling	

Awards

Local Recognition Award Chris Mann, Particle Size Team Leader	June 2017
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"Thanks for all your extra efforts you put in last summer in Particle Size. We wouldn't have gotten through the workload and all the required changes without your commitment, tenacity and work ethic. Thanks."

Publications

The Critical Role of Bees in Global Crop Pollination and the Threat of Neonicotinoid Pesticides LinkedIn https://www.linkedin.com/pulse/neonicotinoids-bees-luke-benjamin-ellis/	April 2018
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