



A.J.R.Lewis

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I am an independent software consultant and developer open to work! My recent portfolio boasts full-stack stack software for managing bookings, generating invoices and gaining artificial intelligence (AI) business insights, to advanced application programming interfaces (APIs) using large language models (LLMs) and web-scraping techniques. I hold a PhD in extragalactic astrophysics from The University of Edinburgh and have over 4 year's worth of experience in the tech industry, where previously as Head of AI I developed advanced AI algorithms for demand forecasting and led a team of software engineers.

Education

The University of Edinburgh
BSc in Astrophysics

Edinburgh, UK
2008 - 2014

- Developed a strong foundation in astrophysics, conducting experiments, analyzing data, and collaborating on research projects.

The University of Edinburgh
PhD in Extragalactic Astrophysics

Edinburgh, UK
2014 - 2018

- Investigated the role of distant, dusty star-forming galaxies in the formation of galaxy clusters, contributing to our understanding of the universe's evolution.
- Published as the first author in the Astrophysical Journal (ApJ) and contributed to multiple publications as a second author.
- Utilized advanced techniques, including image reduction, machine learning, chi-squared regression, and Monte Carlo simulations, to analyze large field sub-mm observations.
- Gained extensive observing experience with cutting-edge telescopes in Hawaii, Chile, and La Palma, refining observational skills and expanding knowledge of astronomical instrumentation.

Experience

Gigabyte | Website: gigabyte.software London, UK
Web Development / Software Engineer 2018 - 2019

- Created mobile-first websites for clients in the property sector using WordPress.

Itim | Website: itim.com London, UK
Head of AI 2019 - 2024

- Developed advanced AI algorithms, including triple exponential smoothing and multi-layered neural networks, to forecast demand for large retail companies.
- Created RESTful servers to deliver scalable AI solutions, handling approximately 1 million SKU/store combinations per day.
- Interviewed, hired and trained junior software engineers to strengthen the team.
- Explored proof-of-concept solutions for stock allocation and price markdown.

W4lkies | Website: w4lkies.com London, UK
CTO 2023 - Present

- Built the full stack necessary to showcase public pages for the website and implemented dashboard routes to manage persistent data, such as customers, dogs, services, bookings and invoices.
- Used python flask for the server and HTMX for dynamic server-side rendering of dashboard routes.
- Added smart routes to generate invoice PDFs, provide invoice analytics, and forecast future earnings.
- Integrated Bitcoin Lightning Network support for seamless Bitcoin payments.
- Implemented a chat bot to offer domain-specific support, including social media posts and personalized dog breed walking recommendations.
- Occasionally enjoy walking dogs to stay mobile, connect with nature, and provide hands-on care.

A.J.R.Lewis | Website: ajrlewis.com Remote
Freelance Software & Consulting 2024 - Present

- Freelance software work and consulting operating on a bitcoin standard.
- Projects to date have included:
 - Neuralead by Hyperhumans | Website: neuralead.ai
 - * Lead backend API developer.
 - * Sophisticated API using combination of sophisticated web-scraping algorithms, large language models (prompt engineering) and external APIs to generate leads and extract company.

Skills

- **Programming Languages:** Python, JavaScript, HTML, CSS, Bash, Rust
- **Web Development Frameworks:** Flask, FastAPI, htmx
- **Database Frameworks:** MySQL, MS SQL Server, PostgreSQL
- **Machine Learning Libraries:** TensorFlow, PyTorch, scikit-learn, pandas, numpy
- **Version Control Systems:** Git

References

Available upon request.