

# SAMUEL LAWSON

## Big Data Software Engineer

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📍 Indianapolis, IN

### SUMMARY

Passionate Software Engineer with 15+ years of experience in developing web applications and backend systems. Skilled at writing clear, concise, testable code that is easy to maintain and troubleshoot. Experienced in working with both small and large teams across multiple projects and companies. Able to work independently of remote locations or in office environments as needed. Current main tech stack is Python, PHP, JavaScript, data engineering with SQL and NoSQL databases with on-prem systems as well as cloud providers AWS, GCP, Digital Ocean, and Azure.

### PROFESSIONAL EXPERIENCE

#### Contracting Engineer

04/2023 - Present

##### Coherent Automation, LLC

- Hayes Marketing Group: Built an AI content creation assistant using Anthropic AI Agent, N8N, Python, JavaScript, and MongoDB.
- Capital Industries: Work directly with company CEO, COO, and on-site information technology professionals to build and maintain a project management data application.
- Six Feet Up: contributed to LLM Langchain agent tool integration with automated customer service ticketing system. Built AWS Glue data pipeline for financial data. Built GIS application using USDA and Duke University soil survey data.
- Greenwave Tech: Improved query efficiency by at least 30% by designing and fully revising MySQL table schemas and relationship models for an Indianapolis technology up-cycle business.
- TenSpot: Led App V2 re-architecture for flagship Python application rebuild from a Flask POC to a full production Django app.
- EDF Renewables: Built AWS Lambda microservices for solar and battery storage data.
- Built and maintained PHP web applications for the Scottish Society of Indianapolis.

#### Senior Software Engineer

03/2022 - 02/2023

##### Resolute AI

New York, NY (remote)

- Led effort to build new ETL processes handling large datasets.
- Improved on existing Intelligent document processing (IDP) system to integrate IEEE publications, auto-generating keywords and indexing dataset relationships.
- Added automated processes to build, test, and launch new features.
- Leveraged PySpark, and AWS services - EMR, Glue, Lambda, S3, EC2, ECR, and RDS - to increase performance with partitioning and parallel processing across VMs.
- Added front-end React components for clinical trials adverse effects and primary investigator information.

#### Founding Software Engineer / Director

01/2018 - 05/2022

##### Global Energy Advisory

London, UK (remote)

- Started as a weekend project until 2020 (overlap with CSpring) and turned into a major career boost.
- Improved legal compliance, saving an estimated £500,000 in penalties, by updating customer data schema and opt-in practices.
- Enabled qualification to participate in energy markets by building required ingestion and response software for trading contracts.
- Led initiative to build new flagship analysis tool utilizing Python, machine-learning data models, and custom market projection visualization software aimed at reducing market risk by 20%-22%.
- Collaborated with Strathclyde University research data scientists and Royal Bank of Scotland head of power and utilities.



### KEY ACHIEVEMENTS

#### Led initiatives to integrate large datasets

From IEEE publications, US Gov clinical trials, patents, and financial data sources into new and existing datasets enabling multi-schema search for research and finance with improved indexing using natural language processing tools in Python and AWS data pipeline tools.

#### Improved UK energy balancing market risk profile

By building trade optimization engine with Python and Flask as founding engineer of Global Energy Advisory, collaborated with Strathclyde University data scientists on ML data models and coordinated directly with CEO, a recent head of power and utilities with the Royal Bank of Scotland.

#### 30% improved query efficiency

By designing and fully revising MySQL table schemas and relationship models for an Indianapolis technology up-cycle business.

#### Led team of developers to increase test coverage by more than 300% reducing regression time from 3 days to 10 minutes

Developed a testing framework at ANGI using Behavioural-driven model for plain-language test case development that improved the speed and coverage of regression testing. Trained QA engineers on my testing framework, and spoke in front of a group of ~80 software engineers for adaptation and usage.

#### Led App V2 system design

Devised a data schema for TenSpot flagship Python application and data schema migration of a Slack app from a POC in Flask to a full production version with Django. Built an improved data schema and models that the rest of the dev team used as their V2 migration blueprint.

### SKILLS

#### Tools & Programming Languages

Python • Django • Flask • FastAPI •

MySQL • Postgres • ElasticSearch •

NoSQL • AWS • React/Typescript •

Docker • Terraform • Java • C++ • Ruby •

PHP •

AWS (EC2, S3, RDS, ECR, Lambda, Glue, EMR, SNS, SQS, CloudFormation)

## PROFESSIONAL EXPERIENCE

Senior Software Engineer 11/2019 - 08/2020

CSpring

Indianapolis, IN

- Mentored junior engineers to build an intelligent document processing app to read in numerous SOC2 compliance applications and produce an indexed dataset.
- Designed and built a secure intranet web application for Indiana public universities for budgeting, academic planning, and financial planning and evaluation.
- Led a team of four developers (two internal and two client-end contractors) to coordinate front and back end integrations, and performed code reviews.
- Coordinated with business leaders to determine requirements, establish acceptance criteria, and prioritize work efforts. Managed creation of tasks and contributed to Scrum methodologies.
- Mentored junior engineers in Python-Flask application development of a natural language processing app relating to SOC2 compliance documentation.

Software Engineer III 03/2015 - 11/2019

Angi / Angie's List

Indianapolis, IN

- Built custom PHP modules used in Drupal site to drive customer engagement and spear-headed site-wide upgrade from PHP 5.6 to 7.1.
- Collaborated with high-profile engineering team responsible for customer-facing web application responsible for a reported revenue increase of more than \$15,000,000.
- Made direct development contributions migrating from Drupal to client/microservices architecture built with React/Redux and Scala/Java bounded-context services.
- Led an initiative to improve testing practices department-wide, increased coverage by more than 300% and reduced regression time from 3 days to 10 minutes; built an automated behavioural-driven test framework.
- Mentored QA engineers to write behavioural tests and gave large group presentations on how to use the Python automated testing framework I developed from start to finish.

PHP Developer 05/2014 - 03/2015

Givelify

Indianapolis, IN

- Built PHP backend and UI for mobile application and web-based development of browser version of mobile application.
- Improved the apps ability to process customer and payment information.
- Tech stack: PHP/MySQL, Yii, jQuery, JavaScript, HTML/CSS, UML, AWS: EC2, S3, RDS, Elastic Load Balancing.

PHP Software Developer 01/2013 - 05/2014

Moorehead Communications

Indianapolis, IN

- Contributed to new features and maintenance of enterprise applications used by over 500 Verizon Wireless retail stores.
- Built over 20 custom Drupal modules, cron jobs, clients & service API development.
- Led JavaScript project for data integration with ExactTarget (now Salesforce).
- Agile SDLC, git, Capistrano, development with PHP, MySQL, and Ruby.

Database and Software Developer 01/2009 - 08/2012

Fat Atom

Carmel, IN

- Assessed and learned a PHP ORM library that was unfamiliar to everyone in the company in under 2 weeks, required for a client project to match job vacancies with job seekers.
- Designed the membership database architecture for Carmel-Clay Parks & Recreation fitness center and built a custom administration tool for its usage.
- Developed ETL pipelines to integrate external contacts accounts, CRM, email marketing services, and social networks.
- Built Java/Swing desktop application to capture and parse contact information.

## EDUCATION

Post-Grad Certificate: Mechanics of Future Power Markets

Middlesex University

London, United Kingdom

- Studied industry projections and impact of new investment on energy production.
- Identified areas of improvement in renewable energy.
- Built a risk registry for energy market participants.

Master of Music

Butler University

Indianapolis, IN, USA

- Research methods in international arts topics involving a wide variety of source material and languages.
- Presented researched topics to large groups.
- Maintaining long-term focus on intense mental tasks.

## STRENGTHS

 Creative Problem Solving

Repeatedly recognized for novel approaches to tricky problems.

 Keep it DRY

DRY and Do it right the first time. Although a proof-of-concept (POC) can involve the coding equivalent to "shooting from the hip," it's common for a business owner or CIO to see a working concept and say, "Let's just use that." One difference between a developer and a senior engineer is understanding where code is likely to end up in production, and knowing the balance of getting a POC done quickly while still maintaining codebase integrity. If it shouldn't be in production, it shouldn't be in a POC. Even a concept should be testable.

 Proof-of-Concept Success

Multiple greenfield projects and POCs adapted to production in every role since 2009.

 Communication

Charismatic, positive and patient. Able to communicate complex technology and processes to non-technical audiences. Able to accept constructive criticism without negative responses.

 Documentation and writing

Acknowledged accomplishments in creating clear documentation for end users as well as development notes and code reviews.

## EDUCATION

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Bachelor of Science, Media Arts and Sciences, computer science studies in data and web application development

[Indiana University](#)

Indianapolis, IN, USA

- Computer science, history and new developments.
- Language-agnostic programming concepts.
- Built a database-driven finance application with C++ and Oracle.
- Created animated presentations with custom sound design and original music.