

Jack Nelson

Engineer seeking an exciting new challenge
as a Python Developer

📍 Leamington Spa, Warwickshire

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Professional Profile

Accomplished and results-driven professional seeking new opportunities in software development. Progressive minded engineer who has impacted businesses from the use of programming and automation in engineering roles. More than 10 years of experience in engineering, project management, data analytics and developing business strategies. Proven track record of planning and implementing product solutions from concept to completion. Expert in independent and collaborative environments and ability to cultivate working relationships with team members and customers.

Skills

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|---|--|---|
| • Python | • Django | • CATIA / Solidworks |
| • Flask | • HTML & CSS | • Dimensional Maturation |
| • AWS Certified Solutions Architect - Associate | • JavaScript (learning) | • CQI/IRCA Certified ISO 9001:2015 QMS Lead Auditor |
| | • APM (Project Management Qualification) | |

Career Summary

Director & Manufacturing Engineer

2018 – Present

 J A Nelson Limited, Warwickshire

Held contracts with Jaguar Land Rover and Segula Technologies working in Manufacturing Engineering. Development of tools focused on automating tasks leading to increased efficiencies in department. Applications included a 'Document Submission Portal' and a 'Part Pedigree Dashboard', both created using Python and hosted on AWS EB. The tools reduced data processing time by 5hrs for each engineer in the department. Principal role is the dimensional maturation of the body-in-white assembly through comprehensive engineering expertise in parts assembling, system interaction, tolerancing, and methods of location and measurement.

Senior Manufacturing Engineer

2017 – 2018

 REFCO Metals, Dubai, UAE

Development of a Flask application for the control of production quality. The application reads a files output from a CMM and then extracts data to a SQL database for monitoring and reporting. Delivered engineering change services such as tooling updates, installation and commissioning of plant facilities. Led meetings a on weekly basis with suppliers and customers to determine and resolve all problems.

Business Process Development

2015 – 2017

 Jaguar Land Rover, West Midlands

Strategically planned, developed, and delivered automation and press motion program's (OLP's) for tooling in Servo Pressing Facilities. Led development of a new suite of MatLab based tools to automate the creation of OLP's and report facility performance. Using these tools to generate insight, build data driven business cases and set production targets.

Advanced Manufacturing Project Engineer

2014 – 2015

 Jaguar Land Rover, West Midlands

Successfully completed Jaguar Land Rover graduate development scheme within Tooling and Pressed Parts Group. Project Co-ordinator for the delivery of press tooling on a large SUV from concept to verification build. Analysed the technical issues of manufacturing shop floor and efficiently resolved problems.

Apprentice Mechanical Engineer / Business Development

2007 – 2012

 Clark Door Limited, Cumbria

Conceptualised, designed, and launched high quality new website of company using my knowledge of Drupal CMS, HTML, CSS and PHP. Undertook business development projects such as updating all marketing literature and upgrading costing applications. In my first year of employment I held a shop floor role which included operating CNC machinery, fabrication, and interpreting engineering drawings.

Production Monitoring System

January 2020

Technology: Python, Flask, SQLAlchemy, Flask-Login, Chart.js, SQLite, AWS, Bootstrap

Flask application for importing, organising and viewing Co-ordinate Measurement Machine (CMM) data based on measurement program run date and point description. The most recent version of the application was used during pre-production B.I.W builds to monitor quality across different CMM programs. SQLAlchemy is used as an ORM to store imported text data in an SQL database. Three configurations are created through the application factory method: Production, Development and Testing. The production configuration uses mySQL server hosted on AWS.

Portfolio Site

December 2019

Technology: Python, Django, Heroku, S3, Route53, Bootstrap

Dynamic portfolio site created to present projects to potential employers. The site uses Django as a backend with frontend styling through Bootstrap 4. A 'Project' app is built to index and serve individual project data through common views and templates. This also gives the ability to add and change projects through an admin area. The site is hosted on Heroku with static content served from S3. DNS records are managed in AWS Route53.









Document Analysis Tool

July 2019

Technology: Python, Flask, Pytest, Natural Language Toolkit

Flask application that takes a file-path to a directory as an input and then returns a report on the most commonly used words throughout the documents contained in the directory. The application utilises Natural Language Toolkit (NLTK) to remove all stop-words (and, then, but etc) for the English language. Unit, Regression and Integration testing is executed using Pytest.

Education

 Post Graduate Certificate in Automotive Technology (Merit)  University of Warwick	2016 – 2019
 Master of Engineering (First Class Hons)  Lancaster University	2010 – 2014
 Higher National Certificate in Engineering (Double Distinction)  Carlisle College	2008 – 2010
 NVQ Level 2 & 3 – Fabrication & Welding  GenII Training Centre	2006 – 2010

Key Accomplishments

- Lead author on two published journal articles in the 'International Journal of Advanced Design and Manufacturing Technology' and 'Journal of Thermal Engineering'.
- Development of a production quality monitoring application for control and reporting of CMM data
- Successfully launched an on-campus market stall with accompanying Magento website which turned over £30,000 during my second year at university.
- Project Manager on final year MEng project which involved leading a team of 5 students and working closely with the project's sponsor; an industry leader in Additive Manufacturing.
- Completed an Advanced Engineering Apprenticeship at a local manufacturing company.