Jack Nelson

Engineer seeking an exciting new challenge in software development

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Professional Profile

Accomplished and results-driven professional seeking new opportunities in software development. A 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 analysis and developing business strategies. Proven track record of planning and implementing product solutions from concept to completion. Keen interest in Serverless, Cloud Computing, Python, AWS, HTML, APIs, SQL, GIT, Docker, Javascript, React.

Skills

- Python
- Flask
- AWS Cloud Practitioner
- AWS Solutions Architect - Associate
- AWS Developer - Associate

- Django
- HTML & CSS
- JavaScript / React.js (learning)
- APM (Project Management Qualification)

- Docker
- Statistical Data Analysis
- CATIA / Solidworks
- CQI/IRCA Certified ISO 9001:2015 QMS Lead Auditor

Career Summary

Director & Senior Engineer
J A Nelson Limited, Warwickshire
2018 – 2020

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

Senior Manufacturing Engineer
REFCO Metals, Dubai, UAE
2017 – 2018

Slashed scrap-rates by 14% with the development of an application to control production quality. The application extracts a file from a Coordinate Measurement Machine (CMM) and then transforms the data for monitoring and reporting. Managed a cross-functional team to deliver engineering change services including tool updates, installation and commissioning of plant facilities. Headed meetings on a weekly basis with suppliers and customers to determine and resolve all technical and commercial problems.

Business Process Development Engineer
Jaguar Land Rover, West Midlands
2015 – 2017

Realised over £1million's worth of additional capacity by strategically planning, developing, and delivering automation and press motion program's (OLP's) for tooling in Servo Pressing Facilities. Led the development of a 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
Jaguar Land Rover, West Midlands
2014 – 2015

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
Clark Door Limited, Cumbria
2007 – 2012

Conceptualised, designed, and launched a new high-quality website using knowledge of Drupal CMS, HTML, CSS and PHP leading to a 40% increase in traffic. Undertook business development projects such as updating all marketing literature and upgrading costing applications. Originally held a shop floor role which included operating CNC machinery and interpreting engineering drawings.

Personal Projects (visit www.jacknelson.info for more project samples)

Document Analysis Tool   July 2019
Technology: Python, Flask, React.js, Pytest, Docker, Gitlab, Natural Language Toolkit

Dynamic full stack application that takes a file upload as an input and then returns a report on the most commonly used words throughout the documents. The application utilises Natural Language Toolkit (NLTK) to split sentences and remove stop-words (and, then, but etc) for the English language. Backend Unit, Regression and Integration testing is executed using Pytest and continuous integration/delivery implemented with Docker & Gitlab.

Production Monitoring System   January 2020
Technology: Python, Flask, SQLAlchemy, Flask-Login, Chart.js, SQLite, AWS EB, Bootstrap

Flask application for importing, organising and viewing Co-ordinate Measurement Machine (CMM) data based on run date and description. The most recent version of the application was used during pre-production B.I.W builds to monitor quality across different zonal programs. Application factory pattern is utilised to enable three environments: Production, Development and Testing. The production configuration uses mySQL server hosted on AWS RDS.

Job Search Application   May 2020
Technology: React.JS, AWS Lambda, API Gateway, DynamoDB, S3, CodeDeploy, EC2

This project removes non-value-add tasks associated with searching for a job. Lambda functions scrape job advertisement websites – based on a pre-defined criterion, and then store potential job information in DynamoDB. React.JS is utilised for user assessment of stored jobs. Finally, the application sends a weekly summary of jobs as well as a 'Job Alert' when a well-matched job is posted. All of the application services are serverless apart from the compute component which is hosted on EC2.

Education

Master of Mechanical Engineering (First Class Hons)   2010 – 2014
Lancaster University

Project Leader on final year MEng Assignment. Author of two published journal articles in the 'International Journal of Advanced Design and Manufacturing Technology' and 'Journal of Thermal Engineering'. Elected both college and class representative.

Post Graduate Certificate in Automotive Technology (Merit) 2016 – 2019
University of Warwick

Completed whilst working full time at Jaguar Land Rover. Modules studied included: Dimensional Measurement & Management, Project Planning Management & Control, Lightweight Materials for Automotive Applications, Sheet Metal Forming

Higher National Certificate in Engineering (Double Distinction) 2008 – 2010
Carlisle College

Modules studied include: Further Analytical Methods, Project Management, Engineering Science, Mechatronic System Principles, Engineering Design (AutoCAD Inventor)

NVQ Level 2 & 3 – Fabrication & Welding   2006 – 2010
GenII Training Centre

Completed as part of an Advanced Apprenticeship in Engineering. Modules studied include: Complying with Statutory and Organisational Regulations, Using and Interpreting Engineering Drawings, Working Efficiently and Effectively in an Engineering Environment

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 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.