



JON-PAUL BOYD

Cloud Intelligent Systems Engineer

I thrive on delivering tangible, cutting-edge, cloud-hosted AI-enabled and analytic solutions that inform, empower & perform. I help solve business challenges and deliver value to all stakeholders through strong theory, experienced hands-on, clarity of thought and communication.

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Nyon, CH

SUMMARY

- **25 years I.T. experience** as a software engineer, technical solutions architect & development team lead, designing solutions & executing to delivery into production for data-driven decision making.
- **23 LinkedIn recommendations** from providing client-centric expertise to 37 global companies.
- Graduated as **Master of Intelligent Systems, with distinction**, from De Montfort University, Leicester, U.K. (2017-2021).
- **Extensive experience** modelling, cleansing, mining, & visualizing large data collections, including on cloud platforms.
- **4 years experience applying machine learning, deep learning, & heuristics** to real-world problems including customer churn, breast cancer tumour classification, & manufacturing optimization.
- **Extensive natural language processing experience**, building & evaluating state-of-the-art language models for highly relevant retrieval of biomedical information, topic modelling, named entity recognition, & pattern matching.

CAREER HIGHLIGHTS

Azure Cloud Solutions Architect

AC Immune | Lausanne, CH | October – November 2021

In 26 days, cleansed, digitised, and enriched 30K research articles for a knowledge base providing neuroscience analysts with sub-second response to queries. Over 10,000x faster than legacy search.

- **Hands-on, best-practice design, costing, build, configure, deploy, and compliance of Azure services** including IaaS, Automation (Python), code-free Logic Apps, Python durable orchestration and activity Function Apps, containerised app services, 3rd party SaaS, storage, key vaults, event grid, and service plans. Azure Monitor (Application Insights) with telemetry logging and metrics for solution monitoring and troubleshooting. Organisation of resources with management and resource groups. Cost management for subscription monitoring and budget alerting. Security with AAD RBAC and MFA, app user authentication with AAD identity provisioning, securing blob access with SAS (Shared Access Signature), system-assigned managed identities and access policies.
- **Simplified the archiving of new articles** with automation, quality controls, and notifications.

Azure Advanced Analytics Specialist

AC Immune | Lausanne, CH | 2020 – 2021

Driving scientific & business impact on a 6-month contract, leading ACI's first exploration of cloud-hosted data management, machine & deep learning technologies to advance their data-driven agenda. Learned value of human-in-the-loop evaluation of A.I. solutions.

- **Automated tracking & visualization of the highly dynamic COVID-19 vaccine landscape** for informed decision making. Clinical trial knowledge aggregation from multiple sources using Airflow & Azure ML platform pipelines, with persistence into an Azure PostgreSQL database for dashboarding & reporting with Power BI & Streamlit.
- **Prototyped knowledge base supporting time-pressured researchers with more effective information retrieval** using large academic literature collection (400K coronavirus papers). Airflow & Azure ML pipelines automate corpus ingestion & cleansing. Heuristics & topic modelling for metadata extraction & document clustering. Elasticsearch for 4.7M paragraph repository. Fine-tuned BERT-based neural network search strategies calibrated to COVID-19 for more relevant results. Streamlit with Python for web front-end.
- **Proven ability to engage with different stakeholders**, working with biomedical researchers to understand their workflow, & presentations "An introduction to NLP for biomedical research" to the scientific community & solutions to the CSO & CEO.

SAP HANA Technical Architect

Nestle | Vevey, CH | 2014 – 2017

Technical lead, inspiring team implementing groundbreaking analytics solution. Empowered 3000 users with recipe search to answer regulatory compliance, quantity & procurement questions previously impossible. Learned I'm still hungry for technical challenges.

- **Resolved SAP product shortcomings**, developing tool for analytic privileges build & assign, enabling project go-live.
- **Quantified performance**, developing tool measuring query times vs KPIs for user experience/expectation mgmt.
- **Acquired new skillsets** to configure HANA workload management, HALM & HRF, then shared with team.
- **Formalized SAP HANA development best practices** for Nestle application development group.
- **Executed 5 HANA major upgrades** & migration of analytics sidecar to embedded NetWeaver/HANA dual stack.

SAP HANA Technical Architect

Bluefin Solutions | London, UK | 2014

Helped BAT realise Gartner's Logical Data Warehouse concept by implementing HANA SDA for data federation of London & Sydney databases. Learned trust won on transparency & keeping delivery promises goes a long way.

- **Developed new P&L**, achieving sub-second performance (legacy 2m10s), SAP Fiori KPI dashboard with item drill-down.

SAP HANA Technical Architect

HANA Propulsion Laboratory | Blonay, CH | 2013

Learned HANA by engineering piloted vehicle, with real time telemetry to cloud-hosted dB for analytics & vehicle control via openUI5 cockpit. Realised benefits of deep & wide research.

- **Developed data mining for game analytics & reward system** tied to mission objectives & pilot behaviour.

SAP Web Dynpro ABAP Consultant

Nestle | Vevey, CH | 2010 – 2013

Revitalized team, solving skillset deficit, & guided complex development & upgrades. Learned greater self-belief & improved interpersonal skills through learning from others.

- **Redesigned recipe change documents** with new concept driven by simplicity, familiarity & customisation.
- **Cultivated offshore dev capability** with technical training.

SAP ABAP Consultant

Belgian Railways | Brussels, BB | 2008 – 2010

Mobilized to successfully guide & rescue a failing technical project integrating RF scanning into warehouse management shipment handling. Learned love of OO dev & software in physical systems.

- **Individually responsible for complex bespoke development** functionality within logistics execution.

Senior SAP ABAP Consultant

Cap Gemini | Middlesbrough, UK | 2000 – 2008

Analysed customer system code infrastructure for smooth transitioning into SAP competency centre nearshoring service. Demonstrated technical & client-facing capability by delivering revenue earning on-site consultancy & training. Learned rewards of coaching juniors.

- Supervised 3 ABAP developer colleagues, managing work pipeline and continuous coaching.
- Innovated systems integration monitoring dashboard.

EDUCATION

Masters Intelligent Systems

De Montfort University | UK | 2017 – 2020

Discovered why stronger partnerships should exist between enterprise and academia.

- **Masters Thesis Project (90%)** Addressed 2 objectives: **Support decision-making** with timely & highly visual summarisation of the COVID-19 vaccine development landscape. **Support time-pressured researchers** with effective information retrieval. Designed, developed & deployed an Azure cloud-hosted knowledge base of coronavirus research & vaccine clinical trial information. Automated orchestration of high-volume structured & unstructured data aggregation, cleansing, classification, metadata creation & persistence. Automated state-of-the-art BERT-transformer model calibration to complex COVID-19 semantics & embedding of paragraph text sequences into ElasticSearch. Exploration via mobile, secure app using Streamlit framework. Search results outperformed PubMedCentral as evaluated by a medical expert.
- **Applied Computational Intelligence (88%)** Predicting customer behaviour with tree-based machine learning classifiers. Extensive Python with data profiling & preparation, unsupervised & supervised machine learning, overfitting protection, hyperparameter tuning, model scoring, evaluation & selection.
- **A.I. Programming (80%)** NLP Python NLTK context-free grammars for natural language to SQL database query.
- **Data Mining (80%)** Data analysis & machine learning to predict risk indicators for cardiovascular disease.
- **Neural Networks (80%)** Evaluation of biomass & classification of network activity (intrusion, attack, normal).
- **Fuzzy Logic (94%)** Classifying breast cancer tumours with fuzzy inference, outperforming neural networks.
- **Research Methods (96%)** PhD proposal for augmented analytics.
- **Mobile Robots (97%)** Virtual search & rescue robot controlled via Python, implementing obstacle avoidance, sensor data fusion, environment mapping, precision navigation, victim location.
- **Computational Intelligence Optimization (100%)** Design & build of Python hyper-heuristic optimization platform to solve scheduling optimisation. 5 nature-inspired metaheuristic algorithms implemented. Hyper-heuristics dynamically switch low-level metaheuristics to deterministically use the most appropriate algorithm according to current problem state, or select one stochastically.

TOOLS

Machine Learning & Deep Learning: regression, decision tree, random forest, boosting, classification, clustering, neural networks
Heuristics: regular expressions, annealing, genetic, evolution, swarm, hyper
Programming & scripting: Python, JavaScript, SQL, Pandas, Numpy, spaCY, Scikit-Learn, Keras, NLTK, HTML/CSS3, SAP ABAP
Database: PostegreSQL, MySQL, MongoDB, ElasticSearch, SAP HANA
Cloud: Azure ML & Cognitive, stores & storage, automation, scalable IaaS, serverless & containerized compute, security, networking
Frontend: Power BI, Streamlit
Other: Docker, Linux, GitHub, Apache Airflow, Jira

PRAISE

“Tech savvy, experienced, meticulous, dependable, ingenious & eager to learn more”

Rudi Dutli, Principal, Infosys Lodestone

“Builds comprehensive understanding of architectures involved, educating & inspiring teams & co-workers in the process. A real flair for challenging, on-the-edge development”

Trond Stroemme, Team Lead, SAP App Expertise Centre, Nestle

“An expert in his domain, a great team player. His focus on results with optimal quality is outstanding”

Norbert Rignall, Master Data Solution Architect, Nestle

AWARDS

- Microsoft Certified (AZ-900 Azure Fundamentals, AI-900 A.I. Fundamentals, DP-900 Data Fundamentals)
- AWS Certified Cloud Practitioner