

Scott Daniel Nicholson

Scott.D.Nicholson@outlook.com •
linkedin.com/in/snicholson30/ •
Atlanta, GA • 404-536-0238

Technology Consultant & Solutions Architect

An astute, analytical, and highly knowledgeable Information Technology Consultant & Architect with over 10 years of experience delivering Digital Transformations, Business Intelligence, and Subject Matter Expertise to global organizations. Expertise includes design and maintenance of IT architecture, program implementation and management, strategic planning, analytics and reporting, process efficiency and improvements, negotiations and problem-solving, data management and insights. Leverage extensive technical ability, strong communication and exceptional interpersonal skills to gain buy-in from senior leadership, stakeholders, and cross-functional colleagues, to successfully introduce new technologies and tools. Harness training, mentoring and collaborative mindset to build high performance teams that drive performance and organizational growth.

Areas of Expertise

- Transformational Leadership
- Strong Communication & Negotiation
- Information Technology
- Strategic Planning
- Database Systems
- Collaborative Working & Problem-Solving
- Primary Subject Matter Expert (SME)
- Team Building
- Program Management
- Process Efficiency Improvement
- Control Systems Design
- Business Intelligence
- Digital Transformation
- Running Proofs of Concepts
- Cloud Computing (Azure, AWS)
- Computer Vision
- Artificial Intelligence
- Cyber-Physical Systems
- Interactive Computing
- Natural Language Processing
- Change Data Capture: Striim, Oracle GoldenGate
- Data Architecture & Integration
- SQL, Teradata, DB2, Oracle, Cassandra, DataStax Enterprise, Cloudera, Tableau, Microsoft Office, Power BI, Cognos, Essbase, Hyperion Brio, Informatica, SAS
- Enterprise Messaging (Kafka, EMS, etc.)
- Python, C++, C#, Java, Linux bash, HTML, JavaScript, Open mHealth, HL7 FHIR
- MATLAB/Simulink, AADL, Mathematica, VBA, FORTRAN, C, Assembly & Machine Language

Accomplishments

- Boosted operational efficiency and improved customer experience at Delta by implementing operational, analytical toolsets encompassing Cancellation Prioritization (minimizing customer impact), Gate Utilization (reducing tarmac delays), IROP Replay & Simulation tools (utilized for debriefs and training) plus other tools.
- Evaluations undertaken, and reports delivered, influenced leadership actions and decision-making that led to the halving of maintenance cancellations year-on-year, from 5,700 annually to less than 500 in 4 years.
- Created and presented a proposal to the CEO and COO for a multi-year Business Intelligence (BI) strategy, that included BI tools and data development roadmaps for all Operations functions.

Career Experience

Operations Data SME & Digital Transformation Consultant, Delta Air Lines, Atlanta, GA

Nov 2017 – Apr 2020

Headed the development of the organization's Business Intelligence Strategy with funding provided by the Digital Transformation Program. Recognized as Primary Operations Data Subject Matter Expert (SME) and took product ownership of the new Operations Data Lake. Pinpointed and prioritized over 50 data sources to be replicated into the lake for analytical use. Led the determination and implementation of IT architecture, data & resourcing requirements, and inducted several project managers and over 50 team members to progress the program. Integrated data from newly built Single View of the Customer (SVOC) system into operational toolsets.

- Spearheaded and supported the delivery of operational, analytical toolsets encompassing Cancellation Prioritization (minimizing customer impact), Gate Utilization (reducing tarmac delays), Weather Impact Tools, IROP (Irregular

Operations) Replay & Simulation tools (utilized for debriefs and training) and other valuable tools leveraged by frontline and back-office employees, that boosted operational efficiency and improved customer experience.

- Achieved powerful insight into data sources created by and/or harnessed at Delta and in the aviation sector and furthered knowledge of data management & integration practices, modern data replication methodologies and IT architecture.

Consultant - Business Intelligence, Information Technology, Delta Air Lines, Atlanta, GA

Aug 2014 – Nov 2017

Acting as the trusted primary operations data Subject Matter Expert (SME) at Delta, provided advice on operational data and analytics. Headed research into the organization's customer and operational data sources plus industry data sources including from FlightAware, FAA and The Weather Company. Improved communication and collaborative working between the Business Intelligence team and all Operational divisions under the Chief Operations Officer inclusive of Delta Connection, Delta Private Jets and Delta Global Services. Headed the introduction of analytics and reporting capabilities that monitored Joint Venture Partners' operational performance, by liaising with and collating data from JV partners. Drove the innovation and presentation of several application concepts for advanced analytics on complex, large-scale and unstructured datasets to improve AC reliability and enhance operational standards. This encompassed advanced weather analytics, predictive maintenance plus other solutions that were later integrated into the Operations Digital Transformation Program.

- Led and later supported the utilization of analytics and reporting within the IT division, including a migration to use the more advanced service management tool ServiceNow, directly contributing to a reduction in IT incidents.
- Enabled the enhancement of customer service by revamping the airline's Customer Survey program, collaborating with a vendor and other IT groups to redesign survey invitation, data harvesting and storage processes.
- Gained significantly better feedback from business customers enabling additional value to the organization by correctly prioritizing strategic projects, continuously improving Business as Usual (BAU) support and the introduction of improved analytical tool and data training for users.
- Committed to achieving the best possible results for each project, advocated for an agile project delivery approach, which, when adopted, proved exceptionally beneficial to Business as Usual (BAU) operations.
- Led efforts to migrate a substantial number of production-ready datasets from user-owned "sandbox" database environments to the IT-supported production environment.

Specialist - Operations Analysis & Performance (OAP), Delta Air Lines, Atlanta, GA

Apr 2014 – Aug 2014

Charged with the creation of a large, multi-year Business Intelligence (BI) strategy encompassing all 9 operating divisions and 2 wholly owned subsidiaries, supported by a director and VP only. Leveraged strong communication, active listening, and exceptional interpersonal skills, to liaise with each division and their IT Portfolio, including core IT portfolios to gain maximum insight from colleagues. Gained an appreciation of the organization's requirements on a micro and macro scale and a comprehensive understanding of problems encountered.

Formulated a strategy that met the expectations of, and gained buy-in from, core IT Enterprise Architects, Business Intelligence Consultants, and other business units, including Revenue & Network Planning, Finance and HR. Presented proposal to the CEO and COO covering suggested improvements in data sourcing & Business Intelligence tools, resolved identified issues, and laid out data development roadmaps for the entire organization which evolved into the Digital Transformation program.

Specialist - TechOps Analysis & Performance, Delta Air Lines, Atlanta, GA

May 2010 – Apr 2014

Appointed by senior leadership to oversee resource planning, process analysis and improvement, plus the creation of new metrics and technology to support assignments. While in this role, my responsibilities evolved several times.

Monitored and tracked scheduled and unscheduled engine removals plus spare allocations for 15 different engine types across the fleet.

- Automated a considerable amount of Engine Planning's data capture and analysis, streamlining processes and building superior insights into engine efficiency.

Following an unprecedented number of Maintenance Cancellations during Summer 2010, tasked with pioneering an approach to harvest and track "Aircraft Health" metrics to evaluate the health of Delta's fleet.

- Successfully formulated automated processes to capture, monitor and analyze data. Decisions made based on this data and our analyses resulted in the halving of maintenance cancellations, year-on-year, from 5,700 in 2010 to less than 500 in 2014.

Entrusted with the improvement of operational efficiency and performance across the department, directed the initiative to introduce mobile-accessible, web-based reporting and divisional dashboards at TechOps. Bolstered collaboration with Delta's Business

Intelligence team, assumed product ownership of TechOps IT projects for the division and gained & disseminated further knowledge of analytical tools including Teradata database technology, Tableau, SAS, and Cognos.

- Devised, and sustained, maintenance and logistics performance reporting, collected and stored data to facilitate TechOps analytical requirements.

Education

Master of Science in Computer Science, Interactive Intelligence, Georgia Institute of Technology, Atlanta, GA **Aug 2021**

Computer Vision

Covered the basic image capture computational pipeline, feature detection and matching, plus further advanced techniques up to and including video stabilization.

Artificial Intelligence

Studied Machine Learning and statistical-based methods in addition to cognitive-based agents, including building an agent to solve Raven's Progressive Matrices Test of Intelligence.

Cyber-Physical Systems Design, Analysis, & Cybersecurity

Course comprised of architecture and cybersecurity for CPSEs controlling a variety of systems from factories to the electric grid. Developed software for PLCs, control systems for unicycle robots, and updated and analyzed the control software on a UAV using AADL.

Human-Computer Interaction, Interactive Computing

Learnt and practiced fundamental design principles underpinning Human Computer Interaction (HCI) and utilized these to redesign several HCIs including the human interface (controls) required to fly a helicopter.

Bachelor of Science in Aerospace Engineering, Georgia Institute of Technology, Atlanta, GA **Dec 2013**

School of Aerospace Engineering, Computational Aeroelasticity Laboratory

Research the unsteady aerodynamics of biological systems. Analyzed the formation of tornadoes and tropical cyclones and gained understanding of how natural systems yield benefits for aeronautical applications. Final report included current theories behind the formation of tornadoes and tropical cyclones in comparison to mathematical models for the tangential velocity profiles for the vortices once formed.

School of Aerospace Engineering, Costello Research Group

Researched the viability of developing an Unmanned Aerial Vehicle (UAV) with an inflatable wing for the US Department of Defense. Developed design concepts, modelled stability, and controllability of aircraft. After the project completed, personally developed a flight control system for the vehicle. Though never flight-tested or submitted to DARPA, scenarios simulated in MATLAB to test the FCS and explored applying advanced techniques (neural-network adaptive flight control) to the vehicle.

School of Aerospace Engineering, Cognitive Engineering Center

Tested pilot interaction with new developments to the Traffic Alert and Collision Avoidance System (TCAS) on large transport aircraft, primarily on a Boeing 747 simulator.

School of Materials Science & Engineering, Advanced Materials Lab

Synthesized and tested different compositions of a thermoplastic, shape-memory (Polymethyl methacrylate) for orthopedic applications, specifically spinal disc implants.

Affiliations

Member, Technology Association of Georgia

Undergraduate Collegiate Member, American Institute of Aeronautics & Astronautics

Undergraduate Collegiate Member, American Helicopter Society

Undergraduate Collegiate Member, Sigma Gamma Tau (National Aerospace Engineering Honor Society)

Eagle, Boy Scouts of America

Volunteering

Chair, Technology Committee for Museum Tower Homeowners' Association, 2016 – Present

Member, Atlanta Downtown Neighborhood Association, 2015 – Present

Board Member, Atlanta Downtown Neighborhood Association, 2016

Member, Atlanta Center for Civic Innovation, 2015 – Present

Young Gamechanger, Georgia Forward, 2016

Member, Central Atlanta Progress, 2015 – 2020