Ian Smith

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Summary

I currently lead a research team within Intertek's Kanata office which enables the Global Restricted Substances (GRS) group conduct supply chain audits and risk analysis as part of conformity assessment against chemical regulations.

During my time with this role I have harmonized service offerings and re-focused operations from "boutique" consulting services to data-driven, automated analytics. This has contributed to GRS's status as at or near Intertek's worldwide leader in profitability and growth over the last year. Specific technologies include use of machine learning, data mining, data integration, and software engineering, as well as maintaining the team's research knowledge base.

As my role has transitioned from subject-matter expertise to data management tool development, I have completed a part-time B.C.S. at Carleton University's School of Computer Science on my own initiative, and achieved a grade point average of 11.75 out of 12.

Professional Experience

Intertek — Global Restricted Substances — Ottawa, Canada
Engineer *October 2009 – present*
Intertek is a global auditing, testing, and certification service provider. Designed and implemented a configurable risk analysis platform for worldwide chemical regulatory compliance. Mine and analyze data to keep up to date on enforcement and risk trends. Automate business processes. Mentor junior team members.

Ageus Solutions — Ottawa, Canada
Engineer *January 2005 – October 2009*
Ageus Solutions was a successful independent consulting startup which was integrated into Intertek Health and Environmental after acquisition. One of the founders of the company. Served on board of Directors and as a corporate officer. Responsible for legal due diligence during M&A. Designed core analytical services and directed team of regulatory researchers.

Education

Carleton University — Ottawa, Canada
Bachelor of Computer Science, Honors *2018*
With High Distinction. Data management, AI, and software engineering. Web and mobile application development. Computer Vision. Named to Dean's List in 2016 and 2017. Awarded Senate Medal for Outstanding Academic Achievement

Technical Skills

Applications: Data mining, analytics, machine learning, business process automation, data integration, data cleaning, ETL

Languages: Java, SQL. Secondary experience with web development using HTML, JavaScript (including jQuery), and hosting REST server. Shell scripts including BASH, PowerShell. C++

Academic experience only: R, Swift, Python, C, Android, LaTeX

Recent Professional Projects

Risk Analysis System

Purpose: Enables the business to perform conformity assessment and risk analysis based on supply-chain data. The regulatory requirements, substances, and risk assessment criteria are abstracted and can be configured as new uses are required. System applies elements of AI (machine learning and natural-language processing) to assist with decision-making that would not be possible using a conventional, rule-based, approach.
Technology: Object-oriented design, Machine Learning, Java, SQL, JSON
Personnel: Two developers

Data Integration

Purpose: Allows for the use of third-party partner or client data. Integrates engineering and operational databases. Part of this exercise included writing the data interchange specification used by clients and business partners.
Technology: SQL, Java
Personnel: Multiple development teams across Intertek and business partner.

Regulatory Research Tools

Purpose: Assists research team by automatically mining regulatory enforcement data from regulatory bodies. Extracts structured data from text, and performs statistical analysis.
Technology: SQL, Java, Text mining, Multithreaded network communications, AJAX
Personnel: Four researchers

Web Dashboard (Middleware Layer)

Purpose: Demonstration of an interactive portal which would allow clients to view status and preliminary findings of conformity projects in real-time. This project is on hold pending data center's implementation of API specification.
Technology: REST, Javascript, jQuery, SQL, Node.js, JSON
Personnel: Solo effort

Academic Projects

Honors Project

Purpose: Uses Natural Language Processing to extract product structure and composition from free text obtained from industrial designs. Implemented in C++.
Technology: Natural Language Processing

Securities Analysis

Purpose: Uses multi-layer perceptron and Kohonen map to predict equity returns. This project is distinguished from typical stock market analysis in that it attempts to make long-term predictions on the basis of fundamental, rather than technical, analysis (as emphasized by the "Value" style of investing). Daily economic and market data dating back to the mid 1990's is analyzed.
Technology: Neural Networks, Data Integration
