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https://github.com/DForshner

David Forshner, P.Eng.
Full Stack Software Engineer

WORK EXPERIENCE	**Jan. 2014 - Current**	**Brock Solutions - Transportation & Logistics Group - Software Engineer** • Created multilevel (national/airport/area) dashboards showing real time graphs, trend indicators, goal performance and active alarms. • Prototyped the initial front-end design to explore the use of React.js and D3.js libraries. • Developed server side code to clean and aggregate time series data before sending it to the front end for graphing and tabular display. • Created predictive analytics feature to show current, historical, predicted performance using historical data. • Built an ad-hoc bag search feature to allow finding bags based on multiple criteria such as bag properties, presence at locations during time ranges, and performance characteristics. • Presented at company summit on effective code reviews. • Mentored new developers on refactoring code and improving code quality.
	Sept. 2012 - Jan. 2014	**Brock Solutions - Corporate Group - Software Engineer** • Architected the back-end of a greenfield web-based accounting system integration using modern software practices that replaced a 10-year-old legacy system. • Validated the new system against legacy using automated integration tests using historical data to fix business logic and data import problems before going live. • Developed security layer allowing fine-grained control of editing and viewing data. • Optimised performance by adding application level caching and database indexes. • Developed senior management reports, accounting reports, project forecasting and the back-end for time-sheet and expense entry features. • Created validation jobs to monitor ERP system tables for business rule violations. • Provided support during go-live for ~400 employees across Canada and the USA. • Trained and provided ongoing guidance to the maintenance team after go-live.
	Dec. 2010 - Sept. 2012	**Brock Solutions - Manufacturing Group - MES Solutions Developer** • Implemented a tracking and tracing system that used real-time plant events to maintain a live view of inventory levels and records material traceability for FDA compliance. • Created ETLs and queries to offload ~75 reports to a de-normalized reporting database. • Optimized report performance by adding database indexes, setting up maintenance plans and scheduling offline report processing for long running reports. • Developed inventory management screens for mobile barcode scanners.
	May 2004 - Sept. 2009	**C-Vision Limited - Electronics Manufacturing Engineer** • Led a 5-person new product integration team to develop a manufacturing process for ~150 new assembles per year. • Redesigned the new product introduction process using lean manufacturing principles and Kanban to promote transparency and improve on-time delivery. • Created and helped implement a company-wide lead-free manufacturing transition plan. • Investigated the root causes of quality problems, test failures, and customer returns. • Assisted customers by performing design for Manufacturing reviews on designs.
TECHNICAL EXPERIENCE	**Front End**	JavaScript, HTML, CSS, D3.js, React.js, Backbone.js, REST, Webpack, Bootstrap,
	Back End	C#, SQL, MS SQL Server, Entity Framework, ASP.NET MVC/WebAPI, C, C++, Python, MongoDB
	Tools	Source Control (Perforce, Git), Code Review (Review Board), Automated Testing (MSTest/Tape), IDE (Visual Studio, WebStorm, Vim), Profiler (Chrome, SQL, VS)
EDUCATION	**Degree**	BEng. Electrical Engineering (Computer Stream) from Dalhousie University (2004)
	Continuing Education	Algorithms: Design and Analysis, Part 2 (2015), Heterogeneous Parallel Programming (2014), Pattern-Oriented Software Architectures for Concurrent and Networked Software (2013), MongoDB for Developers (2013), CID+ Certification (2008)
ACTIVITIES	**Volunteering**	Rotary Club of Waterloo
	Practice	Engaging in purposeful practice with small code problems and side projects on GitHub.