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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 charts that contrast the current system performance with the historical average for the same day of the week.
- Built a passenger bag search feature that supported searching by multiple criteria such as location during time ranges and performance values outside of limits.
- Presented on effective code reviews an internal company summit.
- 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.
- Optimized performance by adding application level caching and database indexes.
- Developed senior management reports, accounting reports, project forecasting and the back-end for timesheet 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 assemblies 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, SQL Server, Entity Framework, ASP.NET MVC/WebAPI, 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.