

**Darrell Ferguson**  
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**OBJECTIVE:**

Java programmer seeking to develop leading edge software solutions by exploiting my experience in both software development and computer science research.

**TECHNICAL SKILLS:**

**Programming Languages:** Java, JavaScript, C#, C/C++, Smalltalk, Scheme, Prolog

**Development Tools:** Eclipse, JUnit, Apache Tomcat, SQL (MySQL, Oracle, HyperSQL), XML, Lucene, libsvm, OpenNLP, jQuery

**Areas of Expertise:** Object Oriented Analysis and Design, Requirement Analysis, Evolutionary Computing (Genetic Algorithms, Genetic Programming, Artificial Life), Machine Learning (Text Classification), Data Mining

**EXPERIENCE:**

**Applications Development Specialist**

**National Research Council Canada, 2003-2012**

Developed a wide range of software to implement NRC research results. This software has been transferred to government and commercial healthcare clients. As part of this work, I participated in research projects in the areas of machine learning, data mining, and natural language processing.

- Performed requirements analysis, developed use cases, and implemented prototypes and visual demonstrations of new research and technology.
- Wrote software for research experiments and contributed to peer reviewed publications of the results.
- Developed libraries and aided clients with the integration of these solutions into their software.
- Developed and maintained systems used by research biologists, Ottawa Public Health officials, and health related call centres.
- As one example of my projects at NRC, I developed a collection of Java Servlets that performed natural language processing, text classification, data extraction, and web scraping. These Servlets were a significant part of a system installed at a health related call centre and used for data monitoring as well as health surveillance.

**Teaching Assistant**

**Carleton University, 1998-2002**

- Helped develop course content and course notes.
- Lectured classes and conducted laboratory tutorials.

**Research Assistant**

**Carleton University, 1999**

Created an XML specification for representing software design patterns and created an online pattern repository.

- Set up and maintained a Linux server with Java Servlets for running the repository.
- Presented a peer reviewed paper on the XML specification and repository at the 2001 International Conference on Internet Computing.

## **Software Engineer**

**Corel Corporation**, 1998

Developed one of the first commercial efforts for dynamically publishing databases to the web using Java Servlets.

## **Software Developer**

**AMS Management Systems**, 1997

Participated in the development of client/server purchasing systems for Public Works and Government Services Canada and Natural Resources Canada using PowerBuilder.

## **EDUCATION:**

**Master's degree in Computer Science**, Carleton University, 2002

**Bachelor of Computer Science (Software)** – Highest Honours, Carleton University, 2000

## **AWARDS AND ACHIEVEMENTS:**

2011 – OCRI Health Innovation Award (as part of the ILI Watch team)

2005 – NRC-IIT General Award (as a member of the LitMiner project)

2000 – Nortel Networks Scholarship (renewed in 2001)

1999 – NSERC Undergraduate Student Research Award

1995 – Carleton University Undergraduate Entrance Scholarship

## **PUBLICATIONS:**

### **Refereed Contributions**

- D. Ferguson, N. Vinson, J. Morin, J. Martin, S. McClinton, R. Davies (2009) Identifying ILI Cases from Chief Complaints: Comparing Keyword and Support Vector Machine Methods. Proceedings of the 2009 International Society for Disease Surveillance Eighth Annual Conference.
- D. Deugo, D. Ferguson (2004) Evolution to the Xtreme: Evolving Evolutionary Strategies Using a Meta-Level Approach. Proceedings of the 2004 Congress on Evolutionary Computation (CEC2004).
- D. Deugo, D. Ferguson (2004) Achieving Self-Stabilization Using a Meta-GA. Proceedings of the 2004 International Conference on Artificial Intelligence (IC-AI'04).
- D. Ferguson, D. Deugo (2001) Call with Current Continuation Patterns. Proceedings of the Eighth Conference on Pattern Languages of Programs (PloP'2001).
- D. Deugo, D. Ferguson (2001) XML Specification for Design Patterns. Proceedings of the Second International Conference on Internet Computing (IC'2001).

### **Other Publications**

- D. Ferguson (2002) Evolution to the Xtreme: Evolving Evolutionary Strategies Using A Meta-Level Approach. Master's thesis, School of Computer Science, Carleton University, Ottawa, Canada.

### **Non-refereed Contributions**

- D. Ferguson, D. Deugo (2000) A First Draft of an XML Declaration for Patterns. Presented to the Pattern Refactoring Workshop at the ACM Conference on Object-Oriented Programming, Systems, Languages & Applications (OOPSLA), October 2000.