

Academic Background

Concordia University, Montréal, Québec Canada

- **Bachelor of Computer Science**, Honours Computer Applications, (2010)
Fields of application: *physics* and *artificial intelligence*

Professional Experience

Align Technology

MES Software Engineer (*On site contractor, through Atachi Systems*) July 2010 - present

- Software Engineering and System Administration work – centered around a **J2EE** application: **FactoryTalk ProductionCentre**, a Manufacturing Execution System software product by **Rockwell Automation**.
 - **Software Engineering work:**
 - Design and implementation of software solutions (in **Pnuts**) for change requests coming from the SQA team.
 - Reverse-engineering of Rockwell **Enterprise Java Beans** programs into Rockwell **Java Web Services** programs. Developed new Java code, and modified existing Java code.
 - Worked with the FTPC 8.1 Build Utility, to disassemble dsx files into **xml** structures, and to re-assemble xml files into dsx files.
 - **System Administration work:**
 - Implementation of an **Apache Ant** script, and multiple **Bash** scripts, to **automate** part of the **FTPC** & **JBoss** installation/configuration procedures, on remote **Linux** servers.
 - Installation and configuration of FTPC 8.0, 8.1, & 8.2, on **WebSphere/Windows** platforms.
 - Installation and configuration of FTPC 8.1 & 9.0, on **JBoss/Linux** platforms.
 - Installation and configuration of FTPC 9.0 Live Transfer & Purge, for the transfer & purging of data between a Production database and an ODS database.
- Wrote custom documentation (in **L^AT_EX**) on installing and configuring FTPC 8.1 & 9.0 on Red Hat JBoss/Linux platforms.
- **Managers:** **Ema Patki** & **Kumuda Priya K R.**

Atachi Systems

Solution & Support Engineer

September 2009 - July 2010

- Software development with the .NET Framework 3.5, using **C#**.
- Trained on Rockwell FactoryTalk ProductionCenter 8.1:
 - Software development with Rockwell's **Pnuts** API. Developed/scripted simple forms, sub-routines, grids, data collection sets, and basic lot processing tasks.
 - Software development with Rockwell's **Java Web Services** API. Developed simple applications to perform basic lot operations, through an **HTTP** protocol.
- FTPC support engineering work: Basic monitoring of interface managers, historical transfers, and purge operations.
- **Manager:** **Mekala Rao.**

CLaC Laboratory, Computer Science Department, Concordia University

Research Assistant

May 01, 2009 - August 31, 2009

- *General domain of the work:* Natural Language Processing at the textual level - noun phrase semantics.
- Performed work on a **Java**-based number-interpreter system by enhancing its capabilities.
- Worked with the General Architecture for Text Engineering (GATE) framework.
- Wrote JAPE grammars.
- **Supervisor:** **Dr. Sabine Bergler**.

Keenkong

Research and Software Development

March 16, 2009 - April 31, 2009

- Developed **Java**-based components in order to perform natural language processing tasks, at the textual level.
- Researched on different ways of processing natural language texts for web applications mainly involving social networking.
- Worked mainly with the GATE framework and also with the Stanford parser.
- **Managers:** **Olivier Berger** & **Robert Skoczylas**.

CLaC Laboratory, Computer Science Department, Concordia University

Research Assistant

May 01, 2008 - August 31, 2008

- *General domain of the work:* Natural Language Processing at the textual level
- Performed work on a **Java**-based automatic text summarization legacy system.
- Worked with the General Architecture for Text Engineering (GATE) framework.
- Designed program modules in Java, tested the system extensively, and wrote bash scripts.
- **Supervisor:** **Dr. Sabine Bergler**.

Theoretical Particle Physics, Physics Department, Concordia University

Research Assistant

May 01, 2007 - August 31, 2007

- Assisted cutting-edge research work involving high energy physics calculations.
- Wrote programs to perform the calculations with specialized **Mathematica** software packages (**FeynArts**, **FormCalc**, and **LoopTools**).
- Created and presented a poster on the research work.
- **Supervisors:** **Dr. Mariana Frank** & **Dr. Ismail Turan**.

Computer Skills **Programming Languages**

- Skilled in Object-Oriented (OO), Procedural, and Functionnal programming.
- Java, Pnuts, Bash, Python, C#, .NET Framework 3.5, C++, C, Scheme, and Mathematica.

Integrated Development Environments

- Eclipse, NetBeans, Microsoft Visual Studio, FTPC Process Designer.

Source Code Editor

- Vi, Vim, GVim, and MacVim.

Build Tools

- Apache Ant 1.8.2.

Markup Languages

- HTML, XML, and T_EX.

Software Engineering Knowledge and Tools

- Software Life Cycle and Unified Modeling Language (UML).

Source Code Management Tools

- Mercurial, Git, CVS, ClearCase.

Databases

- SQL Server 2005 & 2008, Oracle 9i, MySQL, Relational Modeling, Relational Algebra, NHibernate.

Artificial Intelligence and Natural Language Engineering

- Cognitive Architecture Soar (**S**tate, **O**perator **A**nd **R**esult)
- GATE (General Architecture for Text Engineering), an infrastructure for developing and deploying software components that process human language.
- JAPE (Java Annotation Patterns Engine) grammar.

Application Software

- L^AT_EX, Microsoft Excel, Microsoft Word, PowerPoint, Gnuplot (to draw graphs).

Operating Systems

- Red Hat Enterprise Linux AS 4.5 & 5.4, Ubuntu, Mac OS X, Windows (XP, Vista, and server 2003 & 2008).

Virtual Machines

- Vmware Player.

Application Servers

- Red Hat JBoss Enterprise Application Platform 4.3 & 5.0.
- IBM WebSphere 6.1.

Others

- [Pygments](#) – a Python syntax highlighter.

Honors and Awards

- **Undergraduate Student Research Award (USRA)** from the *Natural Sciences and Engineering Research Council of Canada (NSERC)*, for research work in Natural Language Processing (Artificial Intelligence) at Concordia University, Summer 2009
- **Undergraduate Student Research Award (USRA)** from the *Natural Sciences and Engineering Research Council of Canada (NSERC)*, for research work in Natural Language Processing (Artificial Intelligence) at Concordia University, Summer 2008
- **Undergraduate Student Research Award (USRA)** from the *Natural Sciences and Engineering Research Council of Canada (NSERC)*, for research work in High Energy Physics, at Concordia University, Summer 2007
- Member of the **International Golden Key Honour Society** (since Fall 2006)
- **Dean's List 2007**, Concordia University, Faculty of Engineering and Computer Science

Publication

Sylvain Bellemare, Sabine Bergler, and René Witte. **ERSS at TAC 2008**. Text Analysis Conference (TAC), November 17-19, 2008, National Institute of Standards and Technology (NIST), Gaithersburg, Maryland, USA.

Poster Presentation

Sylvain Bellemare. *Single Top Quark Production at LHC: FeynArts-FormCalc-LoopTools at Work*. Presented at the Arts and Science Undergraduate Research Day, Concordia University, Spring 2008.

Languages

French & English: spoken and written