519-497-1700

Experience

Senior Research Developer

2006 - 2017

Primal Inc.

- Worked directly with the Primal CTO and founder, built prototypes to explore product ideas and scripted data mining from various sources.
- Co-invented patented technology, using synonyms as part of search terms in the context of semantic web implementations.
- Designed and implemented a Lisp-like open source, extensible programming language to allow rapid web service prototyping, using technologies including Perl, JSON, and REST.
- Designed and implemented a Twitter app that receives tweets from a user's followers and replies as that user with recommend content, growing Primal's followers to 30,000+ users.
- Developed a lightweight RSS reader that efficiently follows 25,000 news feeds, intended to provide raw content for Primal's patented search/recommendation technology.
- Developed an algorithm to rank novel natural language terms and phrases in the RSS feeds.
- Designed and implemented a mechanism to allow Primal search technology to integrate into customer web interfaces.

Founder 1998 - 2008 isagn inc.

- Began a technology startup to commercialize UW-developed search technology that implements a schema independent, large scale, text search and retrieval capability.
- Awared the *Martin Walmsley Fellowship for Technological Entrepeunership*, which included a two year \$100,000 grant, business mentorship, and courses in project management.
- Incorporated the business after operating as a sole proprietorship for two years.
- Created an application development platform and XML-aware search and retrieval system that allows web-interface applications to use that UW search technology.
- Worked with several humanities research organizations to design and implement public and private digital library collections and websites.
- Upheld ongoing maintenance, support, and migration service contacts for various customers throughout southern Ontario.

Sessional Lecturer

1998 - 1999

University of Waterloo

- Taught a core Comptuer Science course: CS354 (CS350), Introduction to Operating Systems.
- Set and marked exams, managed TAs, held office hours.

Specialized Knowledge

- Programming languages: Perl, Python, C, Prolog, Lisp.
- Operating platforms and system administration: Linux, Microsoft, Amazon Web Services (AWS), Microsft Azure.

Digital Library Projects

✓ Canadiana.org

Designed and implemented a search engine and web interface for the University of Toronto Library and Canadian Institute for Historical Microreproductions to bring online a large collection of early Canadian literature that was previously only available via microfiche.

√ The Barren Lands

Developed an interactive web application for the University of Toronto Library to present a digital collection of Canadian surveyor J.B Tyrell's documents, photographs and maps.

√ The Lexicon of Early Modern English

Designed and implemented an academic research tool to make a collection of centuries-old word lists and dictionaries available in searchable format.

√ The Text Analysis Portal for Research (TAPoR)

Made the isagn core technologies available to humanities researchers so they could apply the technology to their own text analysis research.

Education

✓ Udemy

Online courses in Deep Learning and Machine Learning.

✓ University of Waterloo

Post-grad Research Assistant: Designed and implemented NNTP client and server software utilizing UW developed text search technology, and a portable threads-programming library.

✓ University of Waterloo Master of Mathematics, Computer Science

Thesis topic: Design and Implementation of a Robust Storage System Architecture Implemented on a dedicated network of four Digital Alpha XP processors.

Graduate Course work: Compiler Construction, Real Time Programming, Topics in Computer Graphics, Algorithm Design and Analysis.

Fellowships: ICR/ITRC (now CITO) fellowship, IBM Research fellowship.

√ University of Waterloo

Post-Degree course work: Reliable Distributed Systems, Computing Theory, Distributed Systems, Cryptography, Coding Theory, Interactive Computer Graphics, Differential Geometry.

✓ University of Waterloo Bachelor of Mathematics, Applied Math/Computer Science Jt. Hon. Computer science course work: Computer Architecture, Scientific Computation, Digital Networks, Machine Structures, Data Structures.

Applied Math course work: Advanced Calculus and Classical and Linear Algebra , Modeling with Ordinary and Partial Differential Equations, Fluid Mechanics.