Shawn F. Murphy

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Profile:

Shawn Murphy is a visionary, innovative and goal-surpassing FOUNDER, CEO, CTO & SOFTWARE ENGINEER with 30+ years of successfully spearheading the execution of organizational visions through bold and solutions-focused business strategies.

- **Software architect**, knowledge engineer, software **developer**, dev team leader, and trainer with vast experience designing and building large data-driven, scientific, academic, collaborative, e-commerce, visualization and publishing systems

- Highly proficient in technical communications as well as diverse programming languages, knowledge representation technologies, frameworks, visualization tools, RDBMSes, ORMs, APIs, standards, methodologies and architectural styles

- Motivated by the observation that exponentiating technologies (AI, nanotech, robotics, biosci) are dominating flatlining wisdom he has led research into solving the human-values alignment problem as a foundation for addressing AI alignment, democratic fragility, irreproducible science, fake news and other conundra

- A visionary leader striving to build out a global-scale knowledge management ecosystem wherein software, knowledge and presentation co-evolve under the pressure of human values, expertise and evidence – to technologically host and ground our collective cognition, so we can meet the challenges of our time

Professional Specialties:

Knowledge Representation & Graphs, Semantic Web, Distributed Systems, Version Control, Collaborative Filtering, AI, Agile, RDBMS, Electronic Data Interchange (EDI), ORM, OOP, Functional, Cognitive Computing, Dynamic Graphics, Pattern Languages, DevOps, FOSS, Data Context Interaction (DCI), Browser Extensions, Identity Management, NoSQL, CSCW, Capability-Based Systems, CI/CD, Test Automation, Digital Electronics, Docker

Languages, Formats, APIs and DTDs:

Python	Java	HTML5	Angular	RDF*
Javascript	C	CSS	React	OWL
Typescript	AWK	SVG	Selenium	SPARQL
Coffeescript	ObjC	XML	DocBook	N3
Postscript	Scheme	jQuery/UI	SGML	TriG
SQL	Smalltalk	D3	LaTeX	OKBC
Bash	LISP	`<canvas>`	Markdown	TMAPI
Rust	Nim	`2d/webgl`	Make	CTM

Standards Implemented:

- TMDM
- OKBC
- RETS
- Digest Auth
- RBAC
- ANSI X12 EDI

Systems:

Linux, MacOS, iOS, Android, Squeak, Minix, AS/400, OS/2, NeXTstep, Windows, Apple*II*

Software:

Emacs	OrgMode	GIT	Eclipse	VirtualBox
SQLite	MongoDB	Oracle	MySQL	PostgreSQL
Django	Flask	Medusa	Zope	Express
GIMP	Docker	POVRay	Squeak	Google Workspace
NodeJS	SalesForce	OpenSCAD	GraphViz	ElasticSearch

Industries:

Artificial Intelligence, Molecular Nanotechnology, Bioinformatics, Digital Humanities, B2B & B2C E-Commerce, Database Publishing, Recruiting Systems, Bibliographic Systems, Fleet Automation & Tracking, Supply Chain Automation, Abuse Detection, Real Estate, Laboratory Information Management (LIMS), Learning Management

Interests:

A-Life	Agorics	Autopoesis	Design Patterns
Emergence	Evolution	Planetworking	Quantified Self
Game Theory	GroupWare	ISO-9000	Markets
Nanotech	Noosphere	Singularity	Wearables

Education

International Baccalaureate @ Lester B. Pearson College; CompSci, Phil, Phys, Math(Hon)
2yrs @ University of Alberta; Digital Electronics Tech @ SIAST; Bootcamp @ NeXT

Experience

Founder & CEO   Nooron Collaboratory Inc/UG
2015 to present   Edmonton, Saltspring, Berlin
Nooron is a long-term R&D project in pursuit of exponentiating collective human cognition. It consists of a novel semantic database backend and flexible frontend which includes knowledge management, data visualization and collective intelligence application development tools. Shawn leads this six person company and also serves as software architect and lead programmer. Nooron Inc is funded by angel investment; management services to consumer products vendors; and semantic software development services to Universities including Guelph, Alberta, Cambridge and Exeter.

Fullstack Software Engineer   Connectifier
2013 to 2014   Orange County, California
Used Java, Scala, AngularJS, the Play Framework, MongoDB, Elastic Search and Selenium as part of a startup team to build a category leading recruiting platform. Connectifier used big data and machine learning techniques to crawl the web and social networks for CV and contact information to empower recruiters specialized in hiring software engineering talent. Shawn was their sixth engineer following the four initial Google software engineers. Shawn left to found Nooron Collaboratory. Connectifier was later acquired by LinkedIn.

Architect & Programmer   The Orlando Project
2013 to 2014   Universities of Alberta, Guelph & McGill
Coding and architecting an animated highly interactive semantic visualization research platform using D3, Canvas, RDF and NodeJS for a university consortium working in the digial humanities. It features multi-modal interactivity (using direct manipulation; bulk specification and a novel semantic graph layout specification language) to support visual exploration of a large text corpus.

Founder, CTO, Architect   Semandra, Inc.
2011 to 2014   Saltspring Island & Edmonton
Semandra provided full-service front-to-backend website development specializing in graphics-intensive designs with multimedia integration, database-driven backends with complex programming requirements, and content-rich user-maintainable CMS sites.

- Ponderate — an agile, collective knowledge curation and evaluation tool
- TOBFleet — a RESTful web service which simplifies vehicle fleet integrations
- Theamatic — a web application for repertory theatre and film festival management.
- CReturns — a graphical scheduling system, e-commerce solution and SalesForce integration for this home energy auditing and retrofitting service

Principal   smurp.com
2002 to 2011   Edmonton, AB
Smurp.com provided contract programming and consulting services with a focus on database-backed web sites and complex data processing operations.

- PyOKBC — A Python implementation of the *Open KnowledgeBase Connectivity* system of knowledge representation and abstraction. It was designed to provide a single consistent interface to diverse structured information sources, to include ontologies, relational databases, xml documents, and topic maps.
- PyRETS — An implementation of the *Real Estate Transaction System* for keeping the Vancouver Real Estate Board synchronized with MLS.ca
- CatPub — A database publishing technology consisting of a POSTSCRIPT templating system over a relational database back-end. Suitable for automatically preparing complex, highly customized, POSTSCRIPT and PDF publications such as directories and catalogs, it is closed source software created under contract for a firm providing publishing services to the real estate industry. It is producing on the order of 10 thousand unique catalog pages every day containing constantly changing data for the largest real estate boards in Western Canada.

- TKQ2.0 — A Django e-store system vending e-books for hundreds of educational publishers, through a dozen store-fronts, with sophisticated features such as promotions, steganographic watermarking in PDF, bundling, coupons and more.
- TKQW — A Medusa-based "digital drop-shipping" system enabling digital goods sale and delivery by untrusted 3rd parties.
- ModelViz — Added dynamic SVG-based touring facilities to this Django model entity-relationship visualizer.
- Alberta Lodging Association — A Django-based lodgings database backing a web site, a printed directory and an associated advertising sales and layout system.

Founder, Chair, VP R&D   Emergence by Design
1995 to 2003   Edmonton, AB
Shawn founded Emergence by Design along with four colleagues to pursue the development of *The Idea Engine.* To fund the ongoing development of TIE, Shawn led EbD to become a dot-com factory, providing consulting, development, hosting and e-commerce services to new dot-com ventures. Shawn was Chairman, VP of R&D, lead developer and chief architect of this 15-person organization, until selling his interest in 2003.

- TheIdeaEngine — architect and lead developer of this R&D project developing a distributed knowledge representation system using Java (and JDBC), Perl (and DBI), Scheme, and various SQL backends. The effort included the implementation of the OKBC (Open Knowledge Base Connectivity) specification in Java and Perl, the authoring of a multithreaded knowledge server and the creation of many perl CGIs, Java Applets and Applications.
- GetCited.org — chief architect and lead developer on this massive, highly abstracted academic bibliographic portal system (a Google Scholar predecessor) featuring:
  - reference and citation cross-references
  - per-publication discusion forums
  - curriculum vitae management
  - links with Amazon and other vendors for associate referral income
  - seeded with MARC Book and Serials databases from Library of Congress
  - rich array of publication types (proceedings, books, articles, manuscripts, bibliographies, etc)
  - tracking of individual/institutional affiliations
  - sophisticated statistics on publishing influence of nations, institutions and individuals based on citation counts
- DedicatedTeacher.com — architect and lead developer for this large, highly abstracted e-commerce engine featuring:
  - sells both 'digital-goods' (eg. MP3s and PDFs of books) and 'tangible goods' (printed books, CDs, educational kits)
  - complex shipping options
  - multiple suppliers per store
  - sophisticated coupon, bundle, sale and promotion features
  - serves store fronts for various companies (e.g. Scholastic)
  - supports multiple currencies, multiple credit-card transaction backends simultaneously and selectively (depending on currency, card-type, availability, etc.)
- Law Opinion — architect and developer of the worlds first E-Commerce facility for the provision of paid legal opinions. It included numerous encryption safeguards to ensure complete client confidentiality; a system for letting people pick the nearest lawyer with experience in the chosen area of the law; and a sophisticated, dynamic, system for performing branching automated interviews.

- FindAMentor.com — architect and lead developer of this system for helping people find and interact with mentors in various areas of their lives; complete with anonymization and multiple personal profiles in different areas of interest

- EmailDirector — architect and developer of this school management system with parallel web and email interfaces and sophisticated email transaction system for, at that time, Canada's largest e-school with 2500 grade-school students

- EStore — architect and developer of this web interface for creating E-Commerce websites using NGage Electronic Commerce technology

- recruiter matchmaking system — salvaged, re-architected and built out a head-hunting firm's matchmaking system for staffing high-tech jobs based on skill, locality and position type

- ClickTrace — architect and developer of this web log mining facility

- Domainatrix — architect and developer of this toolset for bulk management of domain registrations, DNS configurations and network interface configuration

- Edmonton Chamber of Commerce Annual Directory — architect of this database-driven directory including ads and equivalents of white pages and yellow pages

- magazine publishing system — architect of this complete publishing solution with extensive features for advertising sales management and ad layout automation

Systems Analyst I, II & III   Gov't of Alberta
1989 to 1995   Edmonton, AB
Shawn was responsible for analysis, design, programming, training and support of LABBASE: a multi-disciplinary LIMS (Laboratory Information Management System) coded in Paradox and WordBasic. It co-operated with a legacy AS/400 appliction written in RPG/400 and CL, which he also maintained. During this project he managed three other programmers, the AS/400 administrator and a tech support person.

Principal   Sapient Systems
1990 to 1995   Edmonton, AB
Sapient Systems specialized in the creation of desktop database apps.
- Wrote *FastEDI* in PAL (the Paradox Application Language) to provide a subset of the ANSI X.12 (V3.020) Electronic Data Interchange system for an oilfield supply company interested in easing the ordering process for the many regional offices of their large clients in the oil patch. *FastEDI v1.0* implemented the transaction sets for Price/Sales Catalog (832) and Purchase Order (850) thus enabling the electronic distribution of the latest pricelist and placement of orders.

- Created a *Disability Inventory & Assessment System* for an Educational Consultant to use as a proof of concept of her doctoral work for possible productization.

- Created a *Property Management System* for a Realty Firm to track the features, locations, prices and owners of available commercial real estate to facilitate showing to clients

- Attended "NeXT Developer Camp" and wrote *Elements.app*

Founder & Director   TechnoWatch Society
1990 to 1992   Edmonton, AB
Founded and managed this non-profit think tank focused on the existential risks of emerging technologies such as nanotech, biotech, AI and robotics. Put on presentations, guided staff, and conducted a scientific literature review.