

Michael Bauer

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Objective

To design, develop, and document ontologies and ontology software for consumer, business, and commercial application that meet the needs of engineering, marketing, sales, and legal concerns.

Overview

An Ontologist, specifically an Applied Ontologist, builds knowledge sources that meet multiple needs for both internal and external customers along with the software necessary to populate, maintain, and access that knowledge using standard and specialized tools and techniques, as I've done for:

- Mapped Multiple Business Taxonomy and Directory Hierarchies (US and Europe)
- Crowd-Sourced Image Tagging System (REA Group's Home Ideas)
- Trajectory Ontology Management System (Neo4j and Erlang)
- Local Directory Construction (Singapore and Australia)
- Smart Street Local Business Platform (Ruby-on-Rails)

I am comfortable using multiple knowledge representations systems across the full spectrum of DevOps - identity, security, containerization, measurement and testing - to build expressive ontologies and specialized software for managing them as a principled member of an Agile team.

Expertise

Micro-services, Content Platforms, Web Applications, Pub/Sub Messaging, Knowledge Representation, Content Management, Graph Databases, Relational Databases, Artificial Intelligence and Local Search.

Skills

I possess a range of technical skills using RoR, Python, Golang, Postgres, Neo4j, and ElasticSearch for

- Full Stack, DevOps Design, Development and Deployment
- NoSQL and Relational Database Design and Development
- Artificial Intelligence (concentration in Machine Learning and Knowledge Representation)

I possess a number of business skills with particular experience in small business and team management

- Management (Business, Project, and Product Management)
- Marketing (Research, Communication, and Brand Marketing)
- Legal (Intellectual Property, Contract Negotiation, and Organization Development)

Background

I started out as a professional Unix C programmer, became a world-class Lisp developer, migrated to Perl for the Web, and ended up most recently as a Ruby-on-Rails, Python and Golang programmer. I'm a "knowledge-oriented" developer with a bias towards graph-oriented solutions yet competent in traditional relational databases, particularly Postgres, as well as in the use of search systems such as ElasticSearch. Currently cultivating expertise in APIs and micro-services and gaining practical experience in DevOps using OpenStack, Docker, and Kubernetes.

Management Experience for Internet Ventures since 1993

9/07– Present **CEO, Brilliant Arc.** We build advanced web applications, including Enlightenment, a high-volume photo tagging system; Trajectory, a lightweight ontology management system; Smart.Street, a local co-op marketing platform for small business districts; Core, a multi-tenant RoR platform; and Engage a Golang/Javascript pub/sub system.

5/17- 3/18 **Senior Software Contractor.** At Cisco, I built a generic domain registrar API in Python. Ported legacy security application for phishing and monitoring Border Gateway Protocol.

9/02 – 09/07 **Vice President, Product Strategy.** At Local Matters, I directed the Local Matters Lab, responsible for key product innovations in mapping, ontology, and planning for Destination Search, an integrated Search and Mapping system for Yellow Page Publishers. Led primary consumer research, information architecture and usability testing initiatives. Created LocalGuides. Managed AreaGuides.

7/00 - 9/01 **Vice President, Open Source.** At Jabber, Inc. I established the [Jabber Software Foundation](#) and developed the [Jabber Open Source License](#) to help manage open source community relations. Created pricing policies, product roadmaps, and marketing collateral.

10/99 - 7/00 **Product Manager.** At Webb Interactive Systems, I created Indiro, an local business directory and search engine that matched the domain name database with the [Open Directory](#) from Mozilla.

7/98 - 9/99 **Marketing Manager.** At iAtlas Corporation, an Internet search and directory developer, I led product marketing. Created the Infolens Internet market research service that combined the domain name database with the [InfoUSA](#) business profile database.

7/93 - 7/98 **Founder, President, and CEO.** At my own company, Imperative, an Internet business solutions company, we put MapQuest on the web, developed many of the first large corporate web sites (Fisher Scientific, Ameritech, Black Box, ConEd) and sold some of the first Internet advertisements.

Software Experience in Artificial Intelligence and Computer Networking

7/87 - 7/93 **Project Manager, Carnegie Group, Inc.,** an early leader in knowledge-based software development. Managed the development of a system that automatically translated technical manuals from English into French. Managed the marketing and engineering for Knowledge Craft. Built several knowledge-based systems in scheduling, planning, and diagnostics.

7/86 - 7/87 **System Engineer, Robotics Institute, Carnegie Mellon University.** Provided systems integration support for the Angel project, a continuous, speaker-independent speech recognition platform.

Intellectual Property

I hold a patent for a “Knowledge based method and system for local commerce.” For reference, please see www.google.com/patents/US20120095949. In addition, Brilliant Arc offers the following software:

- **Core** multi-tenant, RoR Local platform connecting merchant and tenant associations
- **Alignment** multiple local business taxonomy database and mapping system
- **Engagement** stand-alone Web Service/Web App pub/sub system
- **Crowd** crowd-sourced photo sorting, classifying and tagging system.
- **Aware** multi-modal, cross-vendor, cold-chain IOT management prototype.

Education

5/90 - 5/93 Master of Science in Business Administration, Carnegie Mellon University.

8/82 - 5/84 Master of Science in Computer Science, University Of Pittsburgh.

1/78 - 5/82 Bachelor of Science in Mathematics, University of Pennsylvania at Millersville.