

# Christopher Hagar

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## PROFESSIONAL EXPERIENCE

### Independent Consultant

Sept 2019 – Present

- Software development and project leadership.
- Compliance, risk management, and security.
- Data science, analytics, and business intelligence.
- Teaching, training, and mentoring.

### Dragon Innovation — *Principal Software Engineer and Manager*

Jan 2018 – Aug 2019

- Hired and built the software team after company acquisition and departure of leadership and senior staff.
- Led recruiting, interviewing, hiring, training, reviews, etc. Also managed a team of overseas contractors.
- Lead engineer and architect. Release manager. Rails, Vue.js, Postgres, Heroku.
- Implemented new agile development processes, led sprint meetings, mentored developers, etc.
- *Engineering Highlights* — Created a dynamic extensible cash-flow calculator for hardware startups which simulates the production schedule with various revenues, costs, and user-specified variables. Designed and developed features for BOM management, versioning, API interfaces, reporting and analytics, deployment tooling, data integration, feature flags, and the Javascript build pipeline. Handled infrastructure, performance optimization, security, company IT, etc.

### ReInforced Care — *CTO*

July 2015 – Jan 2018

- Led the transition of all software and IT platforms and operations from a former parent company to a new data center, office, and call-center facility. Sourced and selected all software and IT vendors.
- Led software engineering, architecture, operations, security, compliance, and support for all internal and customer-facing applications, data, and IT systems.
- Performed hands-on development on a variety of new and legacy systems, with technologies including SQL Server, Ruby/Rails, Python, and C#/ASP.NET.
- Led extensive and detailed security and risk assessments and remediation with leading hospitals. Developed compliance policies and internal controls for PHI, call-center operations, IT operations, network, application, and physical security, etc.
- Reported directly to the CEO and provided strategic direction, analysis, and guidance.
- *Engineering Highlights* — Rapidly designed and developed a new secure, streamlined Rails application for call-center workflow and data access. Carefully upgraded portions of legacy systems while implementing new features and new hospitals, maintaining reliability of running system, shepherding resources, and improving security and compliance. Implemented a new backwards-compatible, flexible, and secure SQL Server ETL system.

### Marlyn Consulting — *Managing Consultant and Software Architect*

Mar 2013 – Aug 2015

- Provided technical expertise and research on patents concerning object-relational mapping, peer-to-peer authenticated messaging, and digital sound processing.
- Developed a mobile app for hearing assistance through the iPhone. iOS, Objective-C.
- Designed and built a predictive modeling application utilizing public data sources. R, Ruby/Rails, PostgreSQL.

### Raybeam Solutions — *Senior Consultant and Software Architect*

July 2007 – Feb 2013

Led and managed client-centered software engineering projects. Worked directly with clients and stakeholders to architect solutions and deliver superb results. Raybeam is a premium boutique consulting firm focused on business intelligence, search marketing, data warehousing, and special projects for top technology companies including Google, Facebook, and Microsoft.

### One Kings Lane — *Technical Lead and Project Manager (Consultant)*

Oct 2012 – Feb 2013

- Managed the A/B testing platform for OKL's e-commerce site with one million MUV. R, Ruby/Rails, MySQL.
- *Engineering Highlights* — Built statistical features to conduct experiments, apply tests, and correct measurement errors. Created a model-less, general-use query library extending Arel with ActiveRecord syntax and security.

### Google — *Technical Lead and Project Manager (Consultant)*

May–Dec 2012

- Designed, built, and managed a CRM system for Google's SMB marketing department. App Engine, Python.
- Released a public, Google-branded website.
- *Engineering Highlights* — Created an App Engine ETL system integrating the NoSQL Datastore, Blobstore, Cloud SQL, fault-tolerant user upload, differential archive exports, and UI workflow.

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## Raybeam Solutions (continued)

**Ice.com** — *Technical Lead and Project Manager (Consultant)* Aug 2011 – May 2012

- Led and coordinated a company-wide transition to a new unified reporting platform. Pentaho, MySQL.
- *Engineering Highlights* — Automated the development of 100+ reports to quickly replace four derelict reporting systems.

**Expedia** — *Engineering Manager, Software Architect, and Data Architect (Consultant)* June 2008 – Dec 2011

- Responsible for Expedia's SEM management platform used globally to manage \$200+ million a year in spend.
- Led and managed development, software & data architecture, operations, integration, and client services.
- Ruby/Rails, SQL Server. Google AdWords, Yahoo Search Marketing, MSN AdCenter.
- *Engineering Highlights* — Created a custom CRUD/ORM layer that provides efficient versioned-data changesets with ordinary models, by seamlessly branching and merging data tables under existing ActiveRecord semantics. Created an interpreter that generates custom optimized SQL queries from a user-friendly search form or a domain-specific context-free language. Extended Rails to properly support stored procedures and other static database structures, as files in plain SQL or objects that generate SQL. Designed ActiveRecord extensions to seamlessly collect writes into batches for efficient bulk operations on large data sets. Designed and automated multi-site database management, release system, and development and production policy.

**Google** — *Software Engineer and Data Engineer (Consultant)* Dec 2007 – Feb 2009

- Developed and managed the datamart used by Google's quantitative marketing department.
- Provided data, analytics, and applications to internal managers, statisticians, analysts, and accountants.
- Developed a BI system used to analyze and control finances and SEM metrics for Google in-house advertising.
- *Engineering Highlights* — Integrated data sources including Netezza, AdWords API, AdWords DB, and Sawzall MapReduce. Other technologies included MySQL, Python, Django, PHP, Perl, and CouchDB.

**eBay** — *Lead Software Engineer and Fraud Investigator (Consultant)* Jan–Sept 2008

- Created the main affiliate-fraud detection system for the new eBay Partner Network.
- Investigated and reverse-engineered fraudulent practices and tools. Analyzed traffic and payments.
- Stopped fraud costing eBay millions of dollars a year.
- *Engineering Highlights* — Created an automatic, secure, many-vector affiliate evaluation system with SpiderMonkey, headless X, Perl, MySQL, and Teradata. Designed a feature to automatically record a legally convincing video of offending website behavior in a VM.

**AOL** — *Software Engineer and Data Analyst (Consultant)* July 2007 – June 2008

- Created the BI portal used by the AOL Search division. C#/ASP.NET, SQL Server, JavaScript.
- Made a prototype redesign of the AOL Search website.
- *Engineering Highlights* — Created a unique free-form windowing UI in JavaScript and YUI. Implemented attribution models in database and reports. Designed part of the AOL Related Search suggestion engine.

## EDUCATION

**Hobart College** — Geneva, New York 2003–2007

Bachelor of Science (B.S.), Mathematics

- Including coursework equivalent to additional majors in Computer Science and Political Science
- Faculty Hiring Committee, Department of Mathematics and Computer Science
- Faculty Tenure and Promotion Review Committee, Department of Mathematics and Computer Science
- ACM International Collegiate Programming Competition
- William Lowell Putnam Mathematical Competition
- COMAP Mathematical Contest in Modeling

## EARLIER EXPERIENCE

**Hobart and William Smith Colleges** — Enterprise IT and technical support for students, faculty, and staff, on a multitude of Windows, Macintosh, and Linux software and hardware. 2003–2006.

**Wikimedia Foundation** — Handled official correspondence from the public and took administrative action related to copyright, libel, quality control, and public relations. Volunteer, 2005–2006.

**W.E. Andrews** — ISO 14000 compliance assistant at printing plant. Asst. network administrator. Summer 2005.

**Levelway** — Web developer. Taught and supervised two high-school interns. PHP, MySQL. Summer 2004.

**Computer-Ed High Tech Camps** — Taught classes in C, C++, networking, Internet broadcasting, and Unix to campers age 8–17. Network administrator on a three-person team wholly responsible for a 150-workstation network and one-week setup from scratch. Camp counselor. Summers 2001, 2002.

References furnished upon request.