**Profile**

Innovative Senior Software and Web Development Engineer with in-depth experience building high-performance software

and applications. Demonstrated success leading the design and development of front-end interfaces and back-end frameworks

with sound knowledge of modern web technologies and techniques. An expert in data science/engineering who has authored two

books on machine learning. A recognized thought leader who builds world-class solutions, at the highest levels of service excellence,   
and consistently exceeds goals while serving as a trusted and valued business partner. A cross-functional leader with talent in

developing team members to become top performers and driving integrated solutions that encourage long-term business growth.

----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

**Core Competencies**

|  |  |
| --- | --- |
| * Web and Software Development/Engineering * Full Software Development Lifecycle * Data Architecture / Data Scientist * Full Stack Web Applications * Web Performance Optimization * Troubleshooting and Debugging | * Web Development Technologies and Methodologies * Usability Principles and Cross-browser Compatibility * Security and Risk Management * Coding Standards, Code Reviews, and Testing * New and Emerging Technologies and Frameworks * Coaching, Training, Mentoring, and Performance Management |

----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

**Professional Experience**

**Partner | Modulus 7**

*Seattle, WA | 2009–Present*

Co-Founder of a consultancy firm dedicated to helping medium size startups realize their potential through data analysis and engineering.

* Built multiple patent-pending technologies for pharmaceutical company KitCheck fuzzy matching multiple hospital systems.
* Built first model at RepTheSquad.com for predicting jersey sales with a high accuracy.
* Won GeekWire’s ‘Best App of the Year’ for Siren, a progressive dating application that seeks to protect women from aggressive

dating approaches. Refactored the existing app written in Objective-C and Rails. Provided key advice for data analyses.

* Played key role in inventing new strategies for Ritani, an innovative diamond company. Built a scalable site that handles millions of

page views per month.

* Led initiative to rewrite PHP artificial intelligence engine using Python. Conducted research and development to determine a better model utilizing support vector machines and better ground truth versus an expert in-house system.
* Served as a software engineer for The Clymb and built the first version of the search capability using Elasticsearch. Provided brand affinity analysis using Markov chains.
* Wrote all back-end software for Sqoop, an application that delivers relevant news to journalists including GeekWire and Motley Fool.
* Built an automated lighting tool to respond to entrances and exits in Disney parks.

**Data Architect | Clickfunnels**

*Meridian, ID | 2015–2017*

Serve as a Data Architect, in a remote position, for a company dedicated to building world-class marketing funnels that gives users the ability to effectively market, sell, and deliver products online. Train, mentor, and coach the Data Scientist.

* Led the infrastructure team to deliver outstanding results that met and exceeded targeted goals and expectations.
* Enacted lean processes that significantly improved the development processes.
* Directed all data related architecture decisions/designs and spearheaded the infrastructure transition from Heroku to AWS.
* Rebuilt data infrastructure using AWS tools including CloudFormation and Aurora.
* Rewrote significant parts of the application to run in Node.js microservices.
* Built innovative experiments to support both even and uneven split testing.

**Data Scientist | The Clymb**

*Portland, OR | 2014–2015*

Served in a remote position leading new initiatives to bring data driven statistics to marketing/customer support. Reduced spending by paying down technical debt.

* Built a custom clickstream analysis tool to bring valuable insights regarding customer behavior.
* Revamped data infrastructure using Chef and Vagrant which considerably reduced monthly server cost.
* Analyzed complex data using R, Python, and SQL. Refactored and managed over 10,000 lines of SQL code.

.

.

**Chief Scientist | SocialVolt**

*Overland Park, KS | 2011–2012*

Led a remote team of four developers to produce an enterprise brand management tool and reduce total software defects.

* Led the development of a clustering algorithm that uses a multidimensional hash and binary trees and quickly delivers clusters.
* Implemented sentiment analysis and spam filtering for large amounts of social media posts.
* Introduced design patterns and refactored legacy code bases that significantly improved the company’s development processes.
* Led team to build proof of concept to identify influential users on Twitter and Facebook.

**Software Engineer II | WetPaint**

*Seattle, WA | 2009–2011*

Served as the team’s “Ruby Expert” and provided a broad range of expertise including software architecture, critical technology

decisions, web strategy, and business development.

* Led project to develop the ‘Social Distribution System’, an expert system that detects success features on Facebook editorial

articles. Utilized extensive natural language processing and feature detection.

* Led all Rails development initiatives including leveraging Ruby and Alfresco to build a framework for multiple entertainment sites.
* Shifted company focus from a user-generated content business to an editorial content business. Prototyped platform decisions

using Ruby and Sinatra.

* Created and developed wetpaint.com which has generated over 10M unique monthly visitors.

**Assistant Research and Analyst | Parametric Portfolio Associates**

*Seattle, WA | 2008–2009*

Delivered objective research for high net-worth clients. Developed enterprise software and research program development

opportunities.

* Played key role in developing an enhanced income portfolio product which achieved over $80M in managed assets.
* Improved Eaton Vance’s Structured Emerging Markets portfolio which currently has over $11B in assets under management.
* Created/wrote original research which became the Russel CrossVol Index.
* Designed a web-based tool in C# to provide portfolio managers with market volatility reports.

-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

**Technical skills**

**Languages, Platforms, and Frameworks:** C, C#, CSS, Python, Java, JavaScript, HTML, Spark, PHP, Ruby, Node.js, R, Ruby on Rails, Sinatra

**Databases**: MySQL, PostgreSQL, Redis, Redshift, DynamoDB

**Other**: Elasticsearch, Machine Learning/Operations Research, Linux, Unix, DevOps (Vagrant, Chef, Docker), LaTeX, AWS

-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

**Publications**

* *Thoughtful Machine Learning – In Python* (January 2017)

Updated version of *Thoughtful Machine Learning* focused on deeper content for writing machine learning software including the

common pitfalls of machine learning such as “pipeline jungles”, entangled data, and real world shifts.

* *Thoughtful Machine Learning* (October 2014)

Authoreda book dedicated to applying test-driven development (TDD) to machine learning algorithms including a practical guide to the principles of TDD and machine learning.

* *The Ultimate Guide to Hiring Developers* (September 2012)

Authored an eBook focused on best practices for hiring web developers in a highly competitive market.

-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

**Education and PRofessional Development**

* **Master of Computer Science, Specialized in Machine Learning**

Georgia Institute of Technology, Expected Graduation, 2017

* **Bachelor of Science, Applied and Computational Mathematical Sciences**

**Bachelor of Science, Economics**

University of Washington, Seattle, Washington, 2008

* **Associate of Arts and Science**

Olympic College, Bremerton, 2005 *Matthew Kirk | Page 2*