Michael E. Ratliff

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An accomplished Computer Engineer with a master's degree and experience specializing in application development. Extensive experience in software design processes, architecture, and application quality control. Strong expertise in creating web-based Rails applications.

- Strong background in many areas including application development, operations support, business analysis, project management, and quality assurance.
- Strong experience in application development and design.
- Thorough knowledge of Ruby, web, and database technologies.
- Results-oriented with a proven track record of ensuring projects are seen to completion, meeting target dates, and meeting or exceeding client expectations.
- Hard-working, dedicated, and fully committed to ensuring the highest standards of integrity at all times.
- Works well with all levels of management and colleagues.
- A problem solver, able to find innovative solutions to tough problems.

Languages	Strong experience in Ruby, JavaScript, and Bash Experience in Typescript, Groovy, Java, Rust, Perl, Lisp, Haskell, C, and Visual Basic
Tools and Technologies	Rails, Turbo, Htmx, Tailwind, Bootstrap, LLM, Apache, Node, HTTP, HTML, CSS, SSL/TLS, Git, Docker, Grails, React, Ember, Google Cloud, Android, Linux, Unix, and microcontroller platforms
Databases	PostgreSQL, SQLite, Oracle, MySQL, MS SQL Server, and MongoDB
Methodologies	Agile, Scrum (Scrum.org Certified Professional Scrum Master)

PROFESSIONAL EXPERIENCE

Empora Title, Columbus, Ohio

Senior Product Engineer (July 2021 – Present)

- Implemented "Ask Vera" system that used an LLM to answer user questions about real estate transaction details.
- Instrumental in designing and implementing an in-house accounting system.
- Implemented document templating system allowing generation of title documents from templates.
- Responsible for multiple external system integrations including Dwolla, Plaid, and HelloSign.
- Developed a workflow system for managing resolution of title clearance items.

SPIDA Software, Gahanna, Ohio

Senior DevSecOps Engineer (October 2013 – July 2021)

- Developed multiple custom enhancements and integrations to meet specific client needs.
- Assisted with information security policies and procedures and implementing security enhancements to align cloud servers and networks with those policies.
- Responsible for migration of multiple deployments from on-premise to cloud.
- Created SPIDAcee, an engineering-as-a-service platform capable of scaling to thousands of simultaneous jobs.
- Migrated SPIDAmin application to an Ember front end.
- Engineered a rules-based system for SPIDAmin to calculate and manage pole replacement deadlines.
- Created and trained a neural network used to estimate job execution time in order to optimize scheduling in SPIDAcee.

J.P.Morgan, Columbus, Ohio

Application Developer Lead (February 2011 - October 2013)
Application Developer (March 2007 - February 2011)

- Responsible for development and support of a J2EE web-based global money market fund trading platform which processed $2 billion worth of trades daily.
- Provided 24-hour 3rd-level support for global mission critical applications.
- Worked with business users in the US, Luxembourg, and Hong Kong to identify and create application enhancements.
- Received Silver TORCH Award for implementation of online statements.

LexisNexis, Miamisburg, Ohio
Software Developer and Tester (August 2004 - March 2007)

- Developed a system for tracking software project testing, using two fat-client applications written in Visual Basic, which connected to an Access database using ADO.
- Created a tool using VBA to automate report generation for bug tracking systems, making use of OLE Automation to interface with IE web components to automate data retrieval from a separate web-based bug tracking system.
- Maintained several SQL queries for tracking performance of sales representatives.

EDUCATION

Master of Science Degree in Computer Science and Engineering
The Ohio State University, Columbus, Ohio
Specialization in Artificial Intelligence
Graduated June 2005

Bachelor of Science Degree in Computer and Information Science
The Ohio State University, Columbus, Ohio
Graduated June 2003

SELECTED PROFESSIONAL PROJECTS

Ask Vera (August 2025)
Implemented an AI-driven interface to allow users to get answers about a real estate transaction. Created a system for generating LLM context from the model graph of a real estate transaction. I ensured the system was easily extensible enabling new models to be added to the context with minimal effort.
Technologies used: Ruby, Rails, LLM, Amazon Bedrock

Reconciliation Overhaul (May 2025)
Enhanced Reggie Accounting by partnering with users to identify pain points and misses with reconciliation process. Developed a series of reports to identify reconciliation anomalies allowing users to quickly work through a large backlog of month end reconciliations.
Technologies used: Ruby, Rails, SQL, Redash

Reggie Accounting (2023)
Instrumental in establishing an accounting system used to generate line items, compute transfer amounts, manage wire transfers and check printing, handle month-end reconciliation, and create end-user statements and disclosures.
Technologies used: Ruby, Rails, HexaPDF

MRISA (January 2019)
Developed a service to expose a legacy service as GIS layers. This required building a custom GeoServer extension utilizing a DSL to generate adapters to transform data from a legacy database. I took over this project for an external client after a failed attempt by an in-house team and I was able to quickly develop an extensible solution that exceeded client expectations.
Technologies used: Groovy, Grails, ArcGIS, GeoServer, Microsoft SQL Server

SPIDAcee (July 2017)
Engineered a system capable of scaling thousands of pole analysis jobs across hundreds of instances on Google Cloud. This utilized a neural network to estimate the compute required to analyze batches of thousands of poles. The system then determined the optimal scheduling and resource allocation to complete the task within the SLA. The system scaled up the required resources, ensured all poles where analyzed and reported back to the client, and then cleaned up resources.
Technologies used: Node, Docker, Java, Ember, Google Cloud, MongoDB

Pole Replacement Deadline Rules Engine (February 2014)
Engineered a system to determine deadlines for pole replacement by distilling a set of complex pole replacement schedules into a set of rules. Created a rules engine to execute those rules.
Technologies used: Groovy, Oracle, PostgreSQL

RMB Fund Integration (May 2013)
Worked with client representatives in Hong Kong to integrate a Chinese transfer agent with a money market fund trading platform, allowing clients to place trades on Chinese funds.
Technologies used: Java, Struts, iBatis, TLS, Sybase

Client Portfolio Analytics (January 2013)
Developed a web-based analytics platform for a money market trading platform, allowing clients to analyze their fund holdings using interactive charts and graphs.
Technologies used: Java, JavaScript, CSS, iBatis, Struts, Highcharts, AJAX, JSON, Sybase

TexSTAR/LOGIC (July 2012)
Created a rebranded version of a trading platform for two Texas-based funds. I took over after a failed 9-month project by another firm and quickly delivered a platform in only 4 months which exceeded the clients expectations.
Technologies used: Java, JavaScript, CSS, iBatis, Struts, AJAX, JSON, Sybase

Marketing Site Integration (August 2010)
Integrated a money market fund trading platform with the marketing site for those funds, allowing clients to seamlessly switch back and forth between placing trades and viewing marketing materials and prospectuses.
Technologies used: Java, JavaScript, CSS, AJAX

Cross-sell CRM (January 2009)
Created a CRM application integrating data from three separate lines of business to display one unified view of a client relationship.
Technologies used: JSR 168 Portlets, Java, JavaScript, CSS, iBatis, Sybase, Oracle

Online Statements (July 2008)
Integrated two online statement providers for US and International statements with a money market fund trading platform. This allowed users to retrieve past statements online and removed a significant workload from the client services team who were previously faxing statements to clients.
Awards received: J.P.Morgan's Silver TORCH award
Technologies used: Java, iBatis, Struts, XML, Web services, Sybase

Dual-entry Trading (August 2007)
Enhanced a trading platform with dual-entry trade capability, adding an additional layer of security requiring one user to enter a trade and a second user to confirm the trade before trade submission.
Technologies used: Java, iBatis, Struts, Sybase

SELECTED PERSONAL PROJECTS

Online Mandelbrot viewer
Made to explore web workers by creating a Mandelbrot fractal which offloaded heavy computation to a web worker to keep UI responsive during computation.
https://www.michaelratliff.com/mand/mand.html

JavaScript CPU Emulator of the Notch's DCPU16
Virtual CPU designed for a game that was never released
https://iammer.com/dcpu/dcpu16.html

Visualization of the Dragon Curve
https://www,michaelratliff.com/dragon.html

Visualization of the Collatz Conjecture
https://www.michaelratliff.com/collatz/

April Fools Day Fun
https://calc10.iammer.com/

Scripts for quick development environment configuration
https://github.com/iammer/dotfiles

CLI clone of 2048 written in Rust
https://github.com/iammer/combine_k

Mandelbrot generator written in Rust
https://gitlab.com/iammer/mand

Parody twitter clone with a 3 character limit
https://github.com/iammer/twit