

# Brian H. Rutledge

Software Engineer

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<https://github.com/bhrutledge>

## Summary

I have been writing and using software to solve problems for over 15 years. I was an embedded software engineer for three years, then left the industry in 2005 to pursue people-oriented work. I was fortunate to find it at a large bike shop, where I enjoyed the flow of a variety roles, from selling bikes to administering software. In 2014, I made the switch to professional web development, with a focus on exercising my skills with like-minded people working to speed the adoption of renewable energy. In my free time, I have expanded my software development skills by building responsive websites back-to-front. I enjoy studying software systems and explaining how they work.

## Key Skills and Technologies

Adapting, Analyzing, Assimilating, Coding, Communicating, Debugging, Documenting, Editing, Explaining, Programming, Researching, Teaching, Testing, Troubleshooting

**Software Development:** Python, JavaScript, SQL, Git, Linux/Unix, Data Engineering, Test-Driven Development, Virtual Machines, Docker

**Web Development:** Django, Flask, REST APIs, Celery, Selenium, Vue, Vuex, Webpack, jQuery, Backbone, D3, Charts, Maps, HTML, SASS, CSS, BEM, Bootstrap, Markdown, AWS, Deployment, Responsive Design, Typography, Photography

## Professional Experience

### EnergySage

Boston, MA

The world's first and largest online marketplace for solar panel installation

### Full Stack Web Developer

2014–Present

- Designed and developed a Django REST Framework API, admin interface, and Vue front-end for consumers to browse and filter solar loans, with click-through monetization
- Advocated for, coordinated, and contributed to the adoption of the Vue framework for developing a complex single-page app to implement a new consumer experience
- Developed and maintained a GitHub repository for reproducible data engineering and analysis with the Jupyter Notebook and related Python libraries

- Improved dependency management, documentation, and database fixtures for the Django development environment
- Coordinated and contributed to two major Django upgrades between LTS releases
- Developed revamps of core user interfaces, such as consumers comparing quotes online and installers managing leads, using Backbone and jQuery
- Developed an interface to give solar installers insight into their behavior compared to competitors, using Chart.js for interactive charts and Python for data aggregation
- Developed and deployed a responsive IFrame [widget](#) for partners to [embed](#) in their content, using JavaScript, Webpack, and Netlify
- Developed a Django application for consumers to browse [smart energy products](#), with click-through monetization, and a front-end editing mode to allow non-technical staff to maintain categories and products
- Introduced the BEM naming convention to improve SASS and HTML organization
- Integrated the Django CMS project to streamline content creation and edits by non-technical staff, and instructed staff on its usage
- Developed [interactive maps and tables](#) of solar data for states, using D3 for visualization and Pandas for data aggregation
- Developed the [primary registration page](#) for consumers, using Leaflet for mapping and Pandas for data aggregation
- Developed self-serve, periodic, and on-demand CSV exports for staff, installers, partners, and media using SQL and Pandas
- Integrated with the HubSpot API to sync the Django user database, enabling marketing and sales workflows
- Designed and developed a Django application for pushing consumer data to solar installer CRMs, e.g. Salesforce
- Contributed to the growth of the development team through interviews, technical onboarding, code review, and knowledge sharing
- Coordinated, contributed to, and influenced project planning & design discussions with stakeholders
- Built HubSpot workflows, emails, and landing pages to automate business processes and support marketing efforts
- Provided tech support and vendor coordination for networking, phones, and Google Apps

## Freelance

### Full Stack Web Developer

2006–Present

- Built [my band's website](#) using Django
- Built a [web application](#) using Flask to transform tab-delimited files into searchable and sortable tables, enabling a small retailer to quickly analyze sales reports
- Built [my personal website](#) with the Pelican Python framework
- Developed a [PHP framework](#) for quickly building [brochure websites](#)
- Built single-page [brochure websites](#) with responsive layouts
- Deployed websites to Linux shared hosting services, installing software as needed

### Belmont Wheelworks

Belmont, MA

Bicycle sales and service, catering to all levels of cyclists in greater Boston

## **IT Operations Manager**

2007–2014

- Built and managed the [business website](#) using the SmartEtail CMS, and developed a custom front-end with CSS and JavaScript
- Wrote Python scripts to synchronize the store's inventory to the website catalog, resulting in increased customer inquiries and foot traffic
- Wrote SQL queries and Python scripts to generate custom reports of customers and inventory, streamlining tasks such as mailing list generation and barcode management
- Developed a physical count procedure and programmed a handheld data collector to improve inventory accuracy
- Built a [Squarespace website](#) for the in-house frame builder
- Configured and managed the MindBody web application to replace a paper binder for appointment booking
- Configured and managed Google Apps for email, calendars, and documents
- Maintained a Google Site for the company intranet, documenting numerous procedures and policies, and enabling easy viewing of schedules and calendars
- Managed a major upgrade of the CounterPoint retail management software
- Established and managed the relationship with an IT consulting firm to ensure timely and competent network management for all locations
- Provided IT vendors with on-site troubleshooting, hardware installation, and new project scopes, resulting in expedited solutions to problems and fewer billable support hours
- Provided staff training and support for all software systems
- Designed web and print forms for collecting customer questions and information

## **Bicycle Fitter, Buyer, Salesperson**

2006–2014

- Installed, replaced, and adjusted bicycle components and instructed clients on pedal technique and posture, resulting in a more comfortable, efficient, and safe experience
- Completed bicycle fitting certification programs from SBCU, SICI, and Retül
- Managed customer relationships by email, phone, and appointment
- Ordered and stocked electronics, saddles, nutrition, and media
- Trained staff and customers on electronics

## **Darwin's Ltd.**

Cambridge, MA

Independent coffee and sandwich shop serving Harvard Square

## **Buyer, Sandwich Maker, Barista**

2005–2006

- Ordered and stocked raw ingredients and paper goods
- Prepared and served beverages and sandwiches

## **Applied Innovation Inc.**

Dublin, OH

Network management hardware and software for the telecommunications industry

### **Software Engineer**

2001–2005

- Assumed sole development responsibility for a troubled network device, turning it into a major source of income
- Designed, developed, and documented features for network devices using 68k Assembly, C, C++, Java, and Python
- Designed and developed a Perl web application for automated regression testing of network devices
- Completed software releases as sole developer and as part of a team
- Diagnosed and addressed field issues in conjunction with customer service

## **The Ohio State University**

Columbus, OH

### **System Operations Center Operator, Lab Consultant**

2000–2002

- Responded to help requests in a Unix and Windows environment
- Designed and developed a graphic FAQ editor in Java
- Provided programming and Unix assistance to students in labs of 50–100 computers

### **Grader**

1999–2000

- Graded papers for honors introductory software development course in C++
- Provided guidance for 35–40 students during and outside of class

## **Education**

### **The Ohio State University**

Columbus, OH

### **Bachelor of Science, Computer & Information Science**

2002

- Graduated Cum Laude with Honors in the Liberal Arts, 3.640 GPA

