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### Summary

I am an experienced Software Engineer with a passion for guiding organizations toward success. I specialize in dispelling uncertainty and cultivating a shared understanding across teams.

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| Personal Site | <https://brianlauber.com/> |
| GitHub | <https://github.com/briandamaged/> |
| LinkedIn | <https://www.linkedin.com/in/brian-lauber-26197919/> |

### Professional Experience

#### Principal Software Engineer Plutometry Corporation

October 2019 – January 2024 | June 2024 – August 2024

Plutometry utilizes machine learning to make financial predictions for their customers within a highly-secured environment. I served as the Lead Developer for most of their applications.

##### Activities

* Introduced Project Management practices throughout the company. (Setup JIRA, trained staff on agile methodologies, served as the scrum master)
* Delivered Plutometry’s first revenue-generating platform. (Defined the scope, gathered requirements, established roadmaps, collaborated across teams, coached engineers, implemented key components, provided customer support, etc.)
* Reduced the end-to-end execution time of the data pipeline by a factor of 200, thus enabling Plutometry to conclude its pilot program and graduate to a national rollout.
* Promoted SDLC Best Practices. (Test coverage, code reviews, continuous integration, release management, internal libraries, private package registries, documentation)
* Facilitated the development of the Machine Learning Models. (Formalized mathematical underpinnings, ran batch jobs for model training, conducted analysis, built a model development platform for the Research Team)

##### Technology Highlights

Python, Java, C, AWS, Azure, Terraform, Kubernetes, Docker, Numpy, Pandas, scikit-learn, ray, Jupyter, MLFlow, Flask, MySQL, MSSQL, SqlAlchemy, Hardware Security Modules, PGP, Cryptography, Hashicorp Vault, GitLab-CI, JIRA, Teams

#### Principal Software Engineer 33Across

May 2016 – October 2019

33Across maintains infrastructure that delivers online advertisements to web sites. During my tenure, the business sought to create a new platform that delivered advertisements using a modern technique known as “Server-Side Header Bidding”. I was the technical lead for this initiative and many others, which demanded expertise in both JavaScript (Node.js) and Ruby.

##### Activities

* Architected a globally-available advertisement delivery platform that served millions of requests per minute with a target latency of 5ms per request.
* Coordinated the delivery of numerous software projects across various teams. (Gathered requirements, defined scope, established roadmaps, collaborated across onshore and offshore teams, implemented key components, etc.)
* Cultivated career growth. (Coached employees, provided architectural guidance)
* Promoted SDLC Best Practices. (Test coverage, code reviews, continuous integration, release management, internal libraries, private package registries, documentation)
* Designed and implemented several transformative technologies. (declarative languages for policy and enforcement, specialized pattern matchers)

##### Technology Highlights

Javascript, Ruby, Koa.js, Rails, Angular 1.6, MySQL, PostgreSQL, MongoDB, Redis, Hive, Grafana, Docker, GitLab-CI, JIRA, Confluence, Slack

#### Principal Software Engineer + Owner Arclia LLC

July 2014 – Present

I launched Arclia LLC so that I could take on contract work from local startup companies. My contracts with 33Across and Plutometry quickly converted into full-time employment.

##### Activities

* Guided Startup Founders toward clear and actionable Product Visions.
* Developed Prototypes and Minimum-Viable Products that could be shopped around to potential Customers.
* Adopted codebases and improved their code quality. (Tackled performance bottlenecks, refactored code for maintainability, mitigated security issues, automated deployments, renovated user interfaces)
* Established Project Management practices. (Introduced companies to JIRA and other solutions, trained staff members on agile methodologies, served as the scrum master)
* Introduced SDLC Best Practices. (Test coverage, code reviews, continuous integration, release management, internal libraries, documentation)

##### Technology Highlights

Python, Javascript, Typescript, Ruby, Java, C, React, Next.js, Gatsby, Django, Rails, Sinatra, MySQL, PostgreSQL, MSSQL, MongoDB, Redis, RabbitMQ, Selenium, PGP, Docker, Heroku, AWS, GitLab-CI, JIRA, Trello, Slack, Confluence

#### Senior Software Engineer JIBE

June 2013 – June 2015

JIBE’s signature product was JIBE Apply, which significantly improved the user experience for job applicants while allowing employers to continue using their preferred Applicant Tracking System. Behind the scenes, this entailed integrations with legacy web sites that were never designed to be automated. I became the Lead Integration Engineer for JIBE Apply shortly after I was hired.

##### Activities

* Re-architected the JIBE Apply backend for long-term maintainability, reliability, and scalability. (Extracted repeated code into libraries, wrote unit tests, reviewed code, established design patterns, standardized core infrastructure, added event monitoring)
* Instilled a culture of code reuse. (Encouraged integration engineers to create small libraries that solved specific problems. Worked with IT to provision a private package registry.)
* Improved the efficiency of the integration engineering team by over 1000% by writing a Compiler. This enabled the engineers to write a single high-level specification for each client rather than maintaining hundreds of individual workflows by hand.
* Cultivated career growth. (Coached junior team members, provided architectural guidance)

##### Technology Highlights

Ruby, Selenium, Capybara, Sinatra, Resque, MongoDB, Redis, RabbitMQ, Grafana, Capistrano, Jenkins, JIRA, Slack, Google Suite, Markdown, Confluence

#### Senior Software Engineer / Consultant Cigital, Inc.

June 2008 – June 2013

Cigital was primarily a software security consultancy, although it also dabbled in quality assurance and software development. I was one of the only employees who wore all these hats.

##### Activities

* While working with the Product Development team, I:
  + Pioneered components that integrated static analysis into CI/CD pipelines.
  + Revitalized a faltering product through rapid iteration and feature innovation. (This also repaired a customer relationship in the process)
  + Served as the technical project manager for offshore teams.
* While working as a Quality Assurance Consultant, I:
  + Created a mutation-based testing tool for simulating user behaviors. (This uncovered numerous bugs that we had never thought to test for explicitly)
  + Created meta-programming language for QTP. (This enabled the QA team to write resilient automated tests that could accommodate changes in the UI)
  + Trained QA teams on Selenium / QTP / Quality Center / LoadRunner.
  + Evangelized best practices for writing maintainable automated tests.
* While working as a Security Consultant, I:
  + Educated clients on security topics. (Conducted security reviews, delivered training)
  + Authored internal training. (Rails Security, Best practices for security-oriented QA)

##### Technology Highlights

Python, Ruby, Java, C#, Selenium, QPT, LoadRunner, Fortify SCA, Rails, MySQL, LINQ, Hibernate, Paver, Fabric, Jenkins, Hudson, Cruise Control, Redmine

#### Software Intern Cigital, Inc.

June 2007 – August 2007

During this time, Cigital focused exclusively on consulting. So, the goal of this internship was to prototype a product and entice the company’s leadership to establish a product division.

##### Activities

* Lead the development of a reverse-engineering plugin for Java.

##### Technology Highlights

Java, Ant, Eclipse

#### Software Intern Air Force Institute of Technology

June 2006 – August 2006

##### Activities

* Implemented a stochastic analysis program that computed probabilities for various types of failures within complex networks.
* Discovered a flaw in one of AFIT's algorithms. This flaw could cause the algorithm to produce probabilities that were outside of the range [0, 1].

##### Technology Highlights

C++, Make

#### Software Intern Air Force Institute of Technology

June 2005 – August 2005

##### Activities

* Translated a stochastic analysis program from Fortran to C++.
* Extended the program to allow for arbitrary probability curves and precision.

##### Technology Highlights

C++, Fortran, Make

### Education

* Bachelors of Science in Mathematics (Case Western Reserve University, 2008)

### Professional Skills Summary

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| Leadership | Project Management, Requirements Gathering, Road-mapping, Documentation, Code Reviews, Process Improvement, Software Architecture |
| Code Paradigms | Object-Oriented Programming, Functional Programming, Metaprogramming, Domain-Specific Language Design |
| Languages | Python, Javascript, Typescript, Ruby, Java, C#, C++, C, Bash |
| Frontend Tooling | React, Next.js, Gatsby, WebPack, Babel, MDX, Tailwind CSS, PostCSS |
| Web Service Tooling | Koa.js, Express.js, Flask, Django, Rails, Sinatra, REST, SOAP, Celery, Resque, OpenAPI |
| HTTP Servers | Nginx, Apache httpd, Apache Tomcat |
| Databases | MySQL, PostgreSQL, MSSQL, MongoDB, Redis, Hive, RabbitMQ, Grafana |
| DB Query Builders | SqlAlchemy, Knex.js, LINQ, Hibernate |
| ORMs | SqlAlchemy, ActiveRecord, Mongoid, MongoMapper, Mongoose, Bookshelf.js, Sequelize, Django (models), LINQ, Hibernate |
| Data Science | NumPy, Pandas, scikit-learn, ray, Jupyter, MLFlow |
| Automated Testing | Pytest, unittest (Python), RSpec, JUnit, MochaJS, Chai, Selenium, Capybara, QTP, LoadRunner |
| Static Analysis | SonarQube, Fortify SCA |
| Security | Hardware Security Modules, PGP, Cryptography, HashiCorp Vault |
| Version Control | Git, Subversion, CVS, StarTeam |
| Dependency Mgmt. | Pip, Poetry, VirtualEnv, Gem, Bundler, rvm, npm, yarn, nvm, Maven |
| Build Tools | Babel, WebPack, Rake, Ant, Maven, Make, Paver, setup.py, Poetry, Packer |
| Containerization | Docker, Podman |
| Virtualization | Parallels, VirtualBox, VMWare Player, Packer |
| Deployment | Terraform, Kubernetes, Capistrano, Fabric, Heroku |
| CI/CD | GitLab-CI, Jenkins, Hudson, Cruise Control |
| Cloud Platforms | AWS, Azure |
| Issue Tracking | JIRA, Redmine, Trello, Asana |
| Collaboration | Slack, Discord, Teams, Google Suite, Microsoft Suite, Markdown, draw.io, Gliffy, Whimsical, Mermaid, QuickTime, Confluence |

### FAQ

#### Are you willing to relocate out of Washington, DC?

Not right now. I have a great community of friends here, and I’d rather not leave!

#### Are you open to working Remotely?

Yes! I’ve been working remotely for nearly a decade, and I’ve gotten quite good at it.

In fact, I even trained Plutometry’s staff on remote work during the early days of the pandemic. After a few months, they realized that remote work had increased their productivity, and they ultimately decided to discontinue their physical office.

#### Are you willing to work from an Office?

Yes, but I’d also like to work remotely at least a few days a week if possible. I find that I am much more productive when I have control over my external environment. Something about being in a coffee shop puts me in the right mood for writing documentation!

#### Have you contributed to Open-Source?

Yes! Most of the libraries that I’ve written are proprietary, but I managed to open-source some of the smaller libraries over the years.

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| **Title** | **Language** | **Purpose** |
| arclia-stats | Python | Implements weighted quantiles. (Functionality that is surprisingly absent from numpy!)  <https://github.com/Arclia/python-arclia-stats> |
| zxc | Javascript | Provides easy command-line access to project-specific executables within Node.js projects. This was a lot more useful before npx was invented!  <https://github.com/briandamaged/zxc> |
| Logbert | Ruby | A categorical logger for Ruby. This became the de-facto logger at JIBE because none of the other loggers fit their needs at the time.  <https://github.com/briandamaged/logbert> |
| Tolerable | VBScript | Leverages runtime code generation to add anonymous functions, inheritance, and meta-programming to the VBScript language.  <https://github.com/briandamaged/tolerable> |
| Unobservable | Ruby | Extends Ruby’s object model to support .NET-style events.  <https://github.com/briandamaged/unobservable> |
| B-Lazy | Ruby | Extends Ruby’s Enumerable mixin to support lazy evaluation. Ruby 2.0 incorporated something similar into its core API, thus eliminating the need for this library.  <https://github.com/briandamaged/b-lazy> |

I’ve also contributed to various larger projects over the years. Most notably, I mitigated several race conditions throughout the [Knex.js](https://github.com/knex/knex) codebase.

#### Do you have any interesting hobbies?

You be the judge!

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| * Bicycling * Hiking * Kayaking | * Cooking * Baking * Beer Brewing | * Karaoke * Piano * Songwriting | * Board Gaming * Video Gaming * Programming |