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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 vision 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.

##### Activities

* **Shepherded Plutometry’s first revenue-generating product from concept to delivery and beyond.** (Communicated with stakeholders, defined the scope, solidified requirements, established roadmaps, coordinated teams, coached engineers, built key components, supported customers, etc.)
* **Facilitated the development of Plutometry’s Machine Learning Models.** (Formalized mathematical underpinnings, built tooling, delivered an experimentation platform, ran batch jobs for model training, conducted analysis, performed troubleshooting)
* **Introduced Project Management practices throughout the company.** (Setup JIRA, customized workflows, trained staff on agile methodologies, served as the scrum master)
* **Promoted SDLC Best Practices.** (Test coverage, code reviews, continuous integration, release management, internal libraries, private package registries, documentation)

##### 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.

##### Activities

* **Oversaw numerous software projects from initial concept to delivery and beyond.** (Communicated with stakeholders, gathered requirements, defined scope, established roadmaps, authored technical documents, coordinated onshore and offshore teams, built key components, maintained deployments, etc.)
* **Architected a globally-available advertisement delivery platform that served millions of requests per minute with a target latency of 5ms per request.**
* **Invented several transformative technologies**, including specialized pattern matchers, distributed bookkeepers, data syndicators, and declarative policy languages.
* **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)

##### 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.

##### 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 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 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 worked across all divisions.

##### 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**.
  + **Authored internal training**. (Rails Security, 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 a research paper** that could cause probabilities to fall outside of the range [0, 1] under specific circumstances. Proposed a fix to the author.

##### 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, R&D |
| Cloud & DevOps | AWS, Azure, Docker, Kubernetes, Terraform, Packer, GitLab-CI, Jenkins |
| Languages | Python, Javascript, Typescript, Ruby, Java, C#, C++, C, Bash |
| Frontend | React, Next.js, Gatsby, WebPack, Babel, MDX, Tailwind CSS, PostCSS |
| Backend | Koa.js, Express.js, Flask, Django, Rails, Sinatra, REST, SOAP, Celery, Resque, OpenAPI, Selenium |
| Databases | MySQL, PostgreSQL, MSSQL, MongoDB, Redis, Hive, RabbitMQ, Grafana |
| ORMs and  Query Builders | SqlAlchemy, ActiveRecord, Mongoid, MongoMapper, Mongoose, Knex.js, Bookshelf.js, Sequelize, Django (models), LINQ, Hibernate |
| Data Science | NumPy, Pandas, scikit-learn, ray, Jupyter, MLFlow |
| Security | Static Analysis, Secure Code Reviews, Hardware Security Modules, PGP, Cryptography, HashiCorp Vault |

### 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 |