

# Blair Gemmer {blairgemmer.com – blair.gemmer@gmail.com – 406.253.4962}

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## Experience

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*Freelance Software Engineer*  
{Missoula, Montana}

May 2009 - Present

- \* Working on FOSS projects.
- \* Building bots for Slack and Discord.
- \* Developing and maintaining web applications for local, domestic, and international clients.

**CTO TOMIS, LLC.**  
{Missoula, Montana}

September 2016 - July 2019

### Technical Lead:

- Owning the product design from the executive vision stage to the technical implementation.
- Driving design and development of technical specifications.
- Creating realistic expectations and strategies to accomplish short and long-term goals.
- Research and development on the latest technology.
- Building prototypes and proof-of-concept on new technology.
- Leading back-end team in design, development, and quality assurance of REST API in Python/Django.
- Quality assurance and assisting in design decisions on front-end React.js application.

### Project Management:

- Scrum master: all Jira design, organization, and management.
- Typical Agile environment with daily standups and weekly sprint/scrums meetings.
- Jira issue board design, creation, curation, and triaging.
- Repository management in Bitbucket.
- Team communication and integration automation using Slack.
- Confluence documentation planning, organization, and development.
- Using Jira NextGen Kanban project with product roadmap feature to prioritize epics.
- Using Confluence's Jira templates to write release notes from Jira releases.

### DevOps Management:

- Managing software development lifecycle and API lifecycle.
- Developed rules to manage commit quality, such as requiring ticket numbers with all commits.
- Developed rigorous code review process with branch management rules in place for approval of pull requests.
- Using feature and release branches to manage healthy feature releases and hotfixes.
- Utilizing Bitbucket build pipelines to manage automated testing of feature branches.
- Using Jira and GIT to manage release tagging.
- Customer feedback and visual bug tracking through Usersnap.

### Site-Reliability Engineering:

- Application performance monitoring using DataDog and Honeycomb.
- Logging, host statistics, infrastructure monitoring, and incident detection using Stackdriver and DataDog.
- Exception reporting and ticket creation using Sentry with Jira integration.
- Uptime monitoring and alerting using UptimeRobot and Stackdriver.
- Incident handling, statuses, and post-mortems through Statuspage.io.

*Co-Founder, CTO dotmos, LLC.*  
{Missoula, Montana}

July 2015 - January 2017

- \* **Technical Lead:** driving design and development of technical specifications for key features and tools.
- \* **Lead Software Engineer:** front-end and back-end design and development. Used Django, Node.js, and React.js.
- \* **Project Management:** development team leader, repository management, issue curation, documentation generation, team communications, and data analysis. Used BitBucket/GIT, Asana, DeployBot, Intercom, Usersnap, Open Analytics, and Slack.

*Data Scientist, Software Engineer, etc.* **Upstream Research, Inc.**  
{Missoula, Montana}

November 2015 - September 2016

- \* **Data Scientist:** acquisition and analysis of large geographic-based data sets and creating and updating services in ArcGIS.
- \* **Software Engineer:** writing and testing automation scripts in Python and ArcPy; developing ASP.NET application using the MVC framework in C#; designing and implementing unique solutions to novel problems; and writing and supporting custom functions in PostgreSQL.
- \* **Quality Assurance:** user-testing, writing reports, writing custom scripts in Python to test REST API endpoints, and load-testing pages and REST API endpoints.
- \* **System Administration:** deploying software releases, ensuring server up-time complied with SLA, security updates and patches, and managing Azure resources. Used Azure and Visual Studio.
- \* **Customer Support:** interfacing directly with customers and debugging customer and software issues. Used Freshdesk.

*Security Consultant* **Lake Missoula Group, LLC.**  
{Missoula, Montana}

February 2015 - May 2015

- \* Handled a diverse client base including banks, hospitals, and retail outlets.
- \* Conducted a variety of engagements including:
  - . Internal and External Vulnerability Assessments (IVA, EVA).
  - . Internal and External Penetration Tests (EPT, IPT).
  - . Web and mobile Application Security Assessments (WASA).
  - . Wireless Infrastructure Assessments (WIA).
- \* Wrote detailed reports and presented results for each type of engagement.
- \* Performed tech reviews on assessments conducted by other consultants.

*Senior Software Developer* **Hanna-James Enterprises, LLC.**  
{Missoula, Montana}

July 2014-February 2015

- \* Developed Terminal-Based Test Automation Software in Python.
- \* Designed GUI-Based Test Automation Software in Python using GTK and wrote specification documentation in  $\LaTeX$ .
- \* Developed proof-of-concept prototype for D3-based ToR Network Tracking software in Coffeescript.
- \* Wrote specification document for GUI-Based SDK Architecture in  $\LaTeX$ .
- \* Designed and implemented entire MySQL database for SDK toolkit and implemented a data abstraction layer in Python with distinct connectors for loading the GUI, expanding a specified tool, building a tool for insertion into the database, and setting up the toolchain for execution.

## Teaching

*Teacher's Assistant* **Programming Languages**  
*Teacher's Assistant* **Computer Ethics**  
*Instructor* **Computer Modeling**  
{University of Montana-Missoula}

Spring 2012

Fall 2011

Fall 2010 - Spring 2011

- \* Taught freshman and sophomore students advanced features of Microsoft Excel and Access and assisted them during labs.
- \* Graded all assignments, papers, and exams. Also, maintained office hours to be available out of class for individual tutoring and fielding questions from students.

*Mentor* **The Firehose Project**  
{<https://thefirehoseproject.com/>}

Fall 2014 - Fall 2015

- \* Assisted assigned students by answering questions and working through code samples during weekly one hour online video sessions.
- \* Assisted assigned students by being available for question and code sample walkthroughs via email during regular office hours.
- \* Participated in online video group discussions surrounding larger projects.

## Education

**University of Montana-Missoula**  
*M.S. Computer Science, emphasis in Machine Learning, Data-Mining, and Simulations*

May 2014

**University of Montana-Missoula**  
*B.A. Psychology, minor in Math, Media Arts*

May 2010

## Technical

### Languages

- \* **Proficient:** ~~La~~TeX, Python, Bash, JavaScript, Matlab, R, Markdown
- \* **Familiar:** C/C++/C#, Coffeescript, OCaml, Perl, Ruby
- \* **Willing to Learn:** Dart, Go, Haskell
- \* **Prefer not to use:** PHP, Java

### Frameworks

- \* **Proficient:** Django, Django REST Framework, Flask, ASP.NET
- \* **Familiar:** Elasticsearch, React.js, Vue.js, Node.js

**Favorite Python Modules:** BeautifulSoup4, Celery, Matplotlib, NumPy, ØMQ, Pandas, Redis, Requests, SciPy, Scrapy, Spyder

**Automation / Multitasking:** Celery, Redis, RabbitMQ, ØMQ

**Machine Learning:** Keras, PyBrain, PyTorch, Scikit-Learn, TensorFlow

**Data:** Access, CSV, JSON, MySQL, PostgreSQL, RESTful APIs, SQLite, SQL Server, XML, YAML

**Data Visualization:** D3, Matlab, Matplotlib, R

**Design:** Twitter Bootstrap, HTML5/CSS3/Sass/Less, Invision

**DevOps:** Atlassian (Jira, Confluence, Statuspage, Bitbucket Pipelines), Azure, Bitbucket / GitHub (GIT), DeployBot, Docker, Google Cloud Platform, Kubernetes, Mercurial

**Development Environments:** Atom, Android SDK, PyCharm, SublimeText, VIM, Visual Studio / VSCode, XCode

**Development Techniques:** Agile Methodology using the Scrum or Kanban frameworks, Behavior-Driven Development, Iterative and User-Centered Design, Rapid Application Development, Test-Driven Development

**Communication:** Discord, Google Hangouts, IRC, Join.me, Skype, Slack, UberConference, Zoom

**APIs:** Darksy, Discord, Facebook, Google (Ads, Analytics, Maps, Places, Search Console), Instagram, Mailchimp, Pinterest, Rebrandly, Rezdy, Slack, Twilio (SMS / SendGrid), Twitter, Web CEO, Xola

**Bots:** Discord, Slack

**Network Security:** Aircrack-ng, Burp Suite Pro, Kali Linux, Kismet, Metasploit Framework, Nessus, NeXpose, Nmap, Wire-shark/tshark

**Operating Systems:** Debian and Red Hat-based Linux, Mac OS X, Windows

## Selected Projects

A list of some of my favorite personal and graduate projects, not specifically listed in my work experience, that I had the most fun on. The source code for most of the following projects is on GitHub @[blairg23](#). The rest may be in private repositories on Bitbucket [blairg23](#).

### Grad Projects

#### **Bak-Tang-Wiesenfeld Model for Displaying Self-Organized Criticality**

Also known as the Abelian Sandpile Model, this Python/Matplotlib application simulates sand being poured on a single point.

#### **Earthquakes**

A Python script to plot earthquakes that have occurred in the world, using the Matplotlib Basemap module.

#### **Hoot, aka The Wolf Box**

A hardware/software solution for broadcasting and recording sounds in adverse climates.

#### **Particle Simulator**

A particle physics simulator written in Python using the OpenGL libraries.

### Personal Projects

#### **bookmarks-manager**

Bookmarks Tagr<sup>©</sup> is a full RESTful API for importing your Chrome bookmarks and creating a highly organized network graph of bookmarks and tags. Notable features include smart tagging, social sharing, up/down voting, and reporting bad links for removal.

#### **BetterPassword**

A short script to turn an easily remembered password into a large hashed password for better security in online applications.

#### **create-api-wrappers**

Reynold's RESTful Wrapper<sup>©</sup> is an application that creates API wrapper methods in Python from a list of API endpoints and their valid parameters.

#### **delete-files**

A short script to recursively remove all files within a given directory, given a regex match.

#### **expense-analysis**

Expensive<sup>©</sup> is an application that takes CSV files as input and builds a database of financial transactions to perform financial data analysis tasks, such as analyzing spending habits to build a budget.

#### **files-in-folder**

An application designed to perform an md5 hash-wise diff on files in two given directories. Outputs the contents of the folder (filenames and hash) and the diff as a CSV.

#### **images-from-url**

An application designed to scrape images off any given URL or REST API. On the last commit, it supported Imgur, Instagram, Tumblr, and any raw HTML website.

#### **Nutflux**

A suite of small applications centered around multimedia consumption, Nutflux<sup>©</sup> started as a Netflix clone for consuming your local multimedia collection. Now this suite contains multiple utilities for create a better multimedia experience.

#### **movie-decider**

An application that takes your current multimedia collection and helps decide what you want to watch based on a series of mood questions.

#### **movie-file-fixer**

An application for formatting poorly formatted movie filenames, adding a movie poster from IMDb, and adding subtitles based on the md5 hash of the file. Recent commits were a huge refactor to add test automations, unit tests, and CI/CD pipeline.

#### **movie-tv-show-reminder**

An application that reminds you when your favorite shows have new episodes or a new season.

#### **movie-viewer**

A Netflix clone that uses the Plex API to showcase your multimedia collection.

#### **music-file-fixer**

Like movie-file-fixer, but for music files.

#### **rename-images-to-datetime**

A short script to rename image files to a datetime format based on the datetime the image was produced. Can also format from one datetime format to another. Many cameras name their files like DSC\_0001.png, even if that file has already been created. This script's objective was to create unique files based on that unique datetime format.

#### **TweetyPy**

A Python Twitter client with a wrapper method for every Twitter REST API endpoint. Powered by [Reynold's RESTful Wrapper<sup>©</sup>](#).

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## Professional References

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### **TOMIS, Inc.**

**Evan Tipton** - Founder, CEO - 404.217.1611  
**Michelle Jernigan** - Director of Marketing - 404.384.7318  
**Shane Cavaliere** - UI/UX Designer, Sr. Software Engineer - 406.544.8803  
**Aemil Estvold** - Optimizations / Integrations Engineer - 406.396.1265  
**Cole Carter** - Quality Assurance / Automations Engineer - 707.484.2228

### **dotmos, LLC.**

**Rod Austin** - CEO - 406.396.0673  
**Gary Greyling** - Sr. Software Engineer - +64.210.541.798 (NZ)

### **Upstream Research, Inc.**

**Alex Philp, PhD.** - Co-Founder, CSO - 406.370.2262  
**Jordan Larson** - Senior Economist - 406.830.8807  
**David Bechtold** - Senior Software Developer - 406.529.9606

### **Hanna-James Enterprises, LLC.**

**Misti and Dan James** - President/CEO and Vice President - 406.546.4602  
**Bradley Bahls** - Lead Project Manager, Senior Software Developer - 406.207.6351

### **University of Montana**

**Doug Raiford, PhD.** - Professor, Computer Science Department - 406.243.5605  
**Joel Henry, PhD, JD.** - Professor, Computer Science Department, Master's Defense Committee Chair - 406.243.2218  
**Jesse Johnson, PhD.** - Professor, Computer Science Department Chair - 406.243.2356  
**Yolanda Reimer, PhD.** - Professor, Computer Science Department, Master's Defense Committee Member - 406.243.4618  
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