

Jason C. McDonald

Senior Software Engineer | Author | Project Manager

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<https://codemouse92.com/>

Software engineer in Python, C++, C, and Bash, with experience in debugging, refactoring, software design, and advanced use of multiple programming paradigms. Ubuntu power user, IT, DevOps, and computer repair technician. Experienced Scrum/Agile project manager with a background in communication.

Selected Professional Experience

Corgibytes [February 2022 - Present]

Software Engineer, Cloud Images — Refactoring legacy code for clients.

- Refactoring legacy code in Python and Django.
- Performing data migrations in PostgreSQL with Python and Django.
- Working with clients to identify opportunities for code refactoring.
- Implementing refactoring tooling in C# and Ruby.

Canonical [June 2021 - February 2022]

Senior Software Engineer, Cloud Images — Building and shipping Ubuntu images for use as foundation of thousands of significant cloud-based production environments.

- Maintain Ubuntu cloud image building, testing, and publication pipelines in Python, Bash, and Jenkins.
- Coordinate with major cloud providers and various Canonical teams to engineer solutions to specific business problems, without disrupting production environments.
- Improve and maintain team workflow tooling.
- Write and implement in-team process policies to improve quality and resilience.
- Technical interviewer for in-team hiring.

MousePaw Media [May 2010 - Present]

CEO, Lead Software Engineer — Managing programming department, oversees and develops open source libraries and software in C++ and Python.

- Train and mentor software engineering interns through year-long internships, onboarding them into full-time careers. Developed the internship program in direct cooperation with local universities.
- Oversee complete hiring process.
- Serve as Product Manager for Scrum-driven development team.
- Deploy and maintain collaboration and CI/CD platform for internationally distributed team and open source community.
- Design and lead implementation of open source game development stack in C and C++.
- Developed and published public software development standards, including Quantified Task Management Commenting Showing Intent.

Author [January 2017 - Present]

Authored numerous articles on Python, C++, and project management, most of which are available on DEV.to.

- Wrote “Dead Simple Python” (No Starch Press, 2022), which introduces idiomatic Python to developers coming from other languages. Based on my popular article series of the same name on DEV.

Mailspring [January 2021 – Present]

Community Manager (Volunteer) — Manage user community, prioritize tasks, answer questions.

- Create Discourse for user community, including user-facing issue tracking and documentation.
- Triage and migrate GitHub Issues backlog (1.1K issues initially) to Discourse.
- Assist project owner in defining roadmap and project direction.
- Diagnose and fix bugs in Mailspring (Electron/React/Typescript).

DEV.to [December 2018 – Present]

Tag Moderator (Volunteer) — Enforce community rules and tag policies. Help promote excellent content. Resolve community conflicts diplomatically.

- Define tag policies for several prominent tags, including #python, #opensource, and #beginners.
- Advise moderation policies and tooling, leading to improved moderator experience and productivity.

Technical Skills

C and C++: Applying advanced C++14/17 and classic C and C++ principles to design libraries and implement features with efficient, memory-safe code. Diagnosing and debugging difficult errors, especially undefined behavior. Code refactoring and modernization, memory management, algorithmic efficiency, and advanced debugging techniques.

Python: Experience implementing desktop and command line applications using Python (2.7, 3.x) alongside various GUI/TUI libraries, including Click, PyGObject (GTK), Kivy, and PySide2/6 (Qt5/Qt6). Implementing data models and API in Django and Django REST Framework. Code refactoring, testing, and modernization.

Additional Programming: Deeply familiar with underlying principles, allowing rapid onboarding to any new language or framework. Skilled in Bash script development and use in production environments. Working proficiency with C#, Java, Javascript, Ruby, SQL (including MySQL and PostgreSQL). Designed websites in pure HTML 5 and CSS 3. Prior expertise in ActionScript 3.0 and Visual Basic .NET

Servers: Configured and maintained public-facing, access-controlled LAMP servers from bare metal with Ubuntu Server, using latest best security practices; withstood eight-month distributed cyber attack. Implemented business-class email servers following latest best practices. Experience with Bash, Apache, MySQL, PostgreSQL, PHP, Git server, SSH, LDAP, Let's Encrypt, Postfix, Dovecot, multiple server applications. Wrote extensive public documentation on server deployment.

DevOps: Maintained critical image publication pipeline with Jenkins. Deeply familiar with Git. Implemented entire DevOps stack and workflow for remote development team, using Git, Phabricator, Jenkins, Docker, Oracle VirtualBox, and GitHub. Designed organization-wide standardized build system using CMake, Makefiles, and multiple compilers, linters, and static analyzers. Documented best practices, maintained system.

Team and Project Management: Implemented Scrum in existing team; serves as project manager, while training others as Scrum masters and Agile developers. Organized multiple teams, developed and implemented standards, trained interns. Designed and managed administrative processes.

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Hiring: Conducted remote and in-person interviews of local and international candidates for various development and non-development positions. Trained others in hiring techniques and best practices.

Technical Writing: Written documentation for libraries/APIs, DevOps processes and workflows, training material, and administrative policy documentation. Written multiple articles regarding software practices, project management, and software development. Author of “Dead Simple Python” (No Starch Press), based on series of the same name on DEV.

Public Speaking: Presented at prominent technical conferences, as well as at colleges, workforce training, and universities on software development and career advancement. Co-host and producer of The Bug Hunters Café.

Education

North Idaho College [Non-Degree]: Interpersonal, intercultural, and non-verbal communication, public speaking, general psychology.

- 4.0 GPA, Dean’s list.
- Recipient of Outstanding Student in Communication Department Award.

Portfolio: github.com/codemouse92

LinkedIn: linkedin.com/in/codemouse92

Articles: dev.to/codemouse92