William Fletcher Gilreath

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Summary

I am a multifaceted senior software engineer and computer scientist with 10+ years of experience. I love working with software, especially developing, testing, writing, and analyzing code. I have worked with C#, the .NET platform, Python, Java, JVM languages, shell scripting, and other frameworks and tools.

Experience

Data Engineer 2, Bayer Corporation. — Chesterfield, MO May 2025–Currently.

- Remote data engineer with the Bayer Data Pipeline Engineering team.

Senior Machine Learning Engineer, VMware, Inc. — Palo Alto, CA April 2022–January 2024

- Lead machine learning engineer on Project Crest AI/ML tool that checks and tests accessibility.
- Analyzed and debugged bugs, faults, and glitches in Project Crest when they occurred.
- Conducted research on new AI/ML frameworks, porting from Flask to FastAPI and moving the prototype to production.
- Created, debugged, and integrated new tests using AI/ML functionality into Project Crest.
- Made demonstration videos and presentations showing new tests running in Project Crest.
- Supervised, trained, and reviewed others' work, developing checks and tests for Project Crest.

Senior Member of Technical Staff, VMware, Inc. — Palo Alto, CA July 2020–April 2022

- Developed new features to add to the RDT Internet protocol.
- Developed code fixes for bugs tested for defects in C source code.
- Diagnosed triage problem reports with VSAN source code.
- Purged legacy, obsolete bugs from the Bugzilla database.
- Diagnosis and analysis of customer problem report/service report for CMMDS/RDT.

Web Content Editor/Writer, Hummingbird Innovations — Beaverton, OR September 2019–July 2020

- Research material from various online sources, articles, blogs, books, and research papers.
- Created content in WordPress template and edited a content template for best quality.
- Resolve any content issues or web issues in accessing and viewing content.
- Created a prototype working website to analyze, evaluate, and test web content.

Technical Review Editor, Packt Publications Mumbai, India (remote) January 2019-July 2019

- Technical Contributor "Java Data Structures and Algorithms" lesson technical assessment questions.
- Technical Contributor "Java Fundamentals" pre- and post-assessment technical assessment questions.
- Technical Contributor "Java Fundamentals" lesson 1 and 2 follow-up technical assessment questions.
- Review Editor "Professional Javascript" checking, evaluation, and testing of technical content and source code.

New Life Fellowship Program Member, Union Gospel Mission — Salem, OR September 2015–September 2018

I was homeless after my mother's death and thus lived at the Union Gospel Mission of Salem in a recovery program to get back on my feet. I volunteered and worked doing computer support, public-facing contact, and client relations.

- Graduate of the New Life Fellowship (NLF) program to recover from homelessness.
- Computer support for the front desk, computer laboratory, and staff computers.
- Developed a web app to email evaluations from form to staff.
- Created documents and spreadsheets used by staff in Microsoft Office.

Freelance Software Developer — Picayune, MS November 2006–May 2014

I was my mother's caregiver during her declining years. I worked software gigs and odd programming jobs through word of mouth, solo gigs, etc. I have developed several programs for individual clients or the community at large.

- Ported legacy code to more modern languages such as FORTRAN Pascal to Java, C++, and C#.
- Wrote custom programs, tools, and utilities for macOS, Windows, and Linux.

Software Engineer, Planning Systems, Inc. Stennis Space Center, MS June 2006–November 2006

- Administration of information on MySQL sensor/buoy data database on Linux server system.
- Held security clearance for access to classified information and data.
- Developed Java application library for database management utilizing JDBC database driver.
- Assisted in improving and verifying documentation presented on the Intranet that other scientists and software
- developers used.
- Worked on developing an XML-based message software service project in Java.

Independent Technical Author, Springer-Verlag Picayune, MS March 2002–February 2003

- Lead author on computer architecture book, with Dr. Phillip A. Laplante, "Computer Architecture: A Minimalist
- Perspective," published March 2003.
- Researched the text's technical material relating to computer architecture and engineering.
- Created tables, diagrams, and visual aids for book chapters illustrating concepts and principles relating to computer
- architecture.
- Wrote chapter questions and exercises to assess the material's level of understanding and comprehension.
- Created example programs in C assembly language to demonstrate computer architecture principles.

Java Consultant/Developer, J.R. Simplot Company Boise, ID February 2002–June 2002

- Mentored software engineers through hands-on training with Java and the object-oriented paradigm.
- Rewrote and translated existing code to Java for several in-house applications.
- Developed a Java applet for interactive data visualization with other developers.
- Authored reference documentation for training and education with Java and the object-oriented paradigm using UML.

Firmware/Software Developer, Hewlett Packard/Adecco Boise, ID March 2001–February 2002

- Build printer firmware and debug failed builds on a distributed build system using C/C++.
- Investigate and assist in debugging scripts, utilities, and tools in C/C++, UNIX shell, Perl script, and JavaScript.
- Developed an embedded C source as part of the printer firmware development kit.
- Maintenance testing of software documents and development tools in C/C++ in UNIX.
- Provided support for libraries and scripts for the distributed build system.

Software Engineer, Micron Technology Boise, ID June 1999–November 2000

- Developed for manufacturing data communication system and internal middleware library using TCP/IP and UDP protocols in C/C++ for Unix/Windows.
- Developed and assisted in database development on Oracle, Sybase in PL/SQL, and Transact SQL.
- Assisted in assessing and planning requirements for application programming interfaces relating to SOAP and XML-based software.
- Using distributed middleware messaging, we developed regression test suites for software applications and utilities in C++.
- Instructor for an introductory training class on XML/SOAP/middleware and the application library in C/C++.

Education

- Mississippi State University, Starkville, MS; Bachelor's of Computer Science, minor in Mathematics.
- Nova Southeastern University, Ft. Lauderdale, FL; Master's of Computer Science graduate studies.

Links

- LinkedIn: https://www.linkedin.com/in/wfgilreath/
- Long Resume: https://bit.ly/resume_wfg_long (8-pages detailed)
- GitHub: https://github.com/wgilreath
- Home Site: https://wfgilreath.xyz
- Web App: https://get-star.org

Publications

- "Smart Shell: Bash PaLM Shell Accessing the Google Pathways LLM from a Bash Script," Linux Message, Issue 282, May 2024.
- "Zinger: Have a Bash with the Zing network utility," Admin Magazine, Issue 77, October 2023. https://www.admin-magazine.com/Archive/2023/77/Have-a-Bash-with-the-Zing-network-utility/
- "Zing Me: Introducing the Zing zero-packet network utility," Linux Magazine, Issue 265, December 2022. https://www.linux-magazine.com/Issues/2022/265/Zing
- "Adding Range Type to Java," Java Code Geeks, July 2020. https://www.javacodegeeks.com/adding-range-type-in-java.html
- "ZeptoN is Putting Program into Java," Java Code Geeks, March 2020. https://https://www.javacodegeeks.com/zepton-is-putting-program-into-java.html
- "The Problem with Creating Generic Arrays," Java Code Geeks, October 2019. https://www.javacodegeeks.com/the-problem-with-creating-generic-arrays.html
- "The Two Couriers Problem A Problem of Division by Zero in Transmathematics," Transmathematica Journal, June 2019. https://transmathematica.org/index.php/journal/article/view/7
- "Instruction Set Completeness Theorem: Concept, Relevance, Proof, and Example for Processor Architecture," General Science Journal, March 2017. https://www.gsjournal.net/Science-Journals/Research+Papers-Miscellaneous/Download/6855

Books

- Gilreath, William F., and Laplante Philip A. Computer Architecture: A Minimalist Perspective. Springer-Verlag, New York, New York, 2003. https://www.caamp.info/
- Gilreath, William F. Non-Negative in Value Absolute in Function—the Cogent Value Function, Lambert Academic Publishing, Republic of Moldova, 2018.
- Gilreath, William. WEJAC: Will's Elided Java Api Compiler UserBook, Smashwords, Inc., Pacific Grove, California, 2019. ISBN: 9780463593578. https://www.smashwords.com/books/view/948750.
- Gilreath, William. Interview with the Autist: Neurodivergent Accommodation Concepts and Experiences, Lulu Press, Inc. Research Triangle Park, North Carolina, USA, 2022. Smashwords, Inc. https://www.smashwords.com/books/view/1139587
- Gilreath, William. Computer Architecture: A Minimalist Perspective Exercise Solutions Manual, Lulu Press, Inc. Research Triangle Park, North Carolina, USA, 2022.
- Gilreath, William. Zing This! The Zing Network Utility Userbook, Books2Read, Broken Arrow, Oklahoma, USA, 2024. https://books2read.com/u/bOEVPo