

William Fletcher Gilreath

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Summary

I am a multifaceted senior software engineer and computer scientist with 20+ years of experience. I love working with software, especially developing, documenting, testing, writing, and analyzing code.

Experience

Data Engineer 2, Bayer Corporation. Chesterfield, MO, May 2025–Current (remote)

- Remote data engineer with the Bayer Data Pipeline Engineering team.
- Tested and evaluated a semantic layer AI/ML-driven database model by semantics, keywords, and metadata.
- Migrated and transferred legacy database views in BigQuery from data lake to data mart.

Senior Machine Learning Engineer, VMware, Inc., Palo Alto, CA Apr 2022–Jan 2024 (remote)

- Lead machine learning engineer on Project Crest AI/ML tool that checks and tests accessibility online.
- Analyzed and debugged bugs, faults, and glitches in Project Crest when they occurred.
- Did 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.
- Developed 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, Jul 2020–Apr 2022 (remote)

- Developed new features to add to the RDT Internet protocol.
- Developed code fixes for bugs and 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, Hummingbird Innovations, Beaverton, OR, Sep 2019–Jul 2020 (remote)

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

Technical Review Editor, Packt Publications, Mumbai, India, Jan 2019-Jul 2019 (remote)

- 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, Union Gospel Mission, Salem, OR, Sep 2015–Sep 2018

- 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 the data form to staff.
- Created documents and spreadsheets used by staff in Microsoft Office.

Freelance Software Developer — Picayune, MS Nov 2006–May 2014 (remote)

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. Signed Non-Disclosure limits details disclosed.

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

Software Engineer, Planning Systems, Inc., Stennis Space Center, MS Jun 2006–Nov 2006

- Administration of information on the MySQL sensor/buoy data database on the Linux server system.
- Held security clearance for access to classified information and data.
- Developed a Java application library for database management utilizing the JDBC database driver.
- Improved and verified documentation was posted on the Intranet for other scientists and software developers to use.
- Developed an XML-based message software service project in Java.

Independent Technical Author, Springer-Verlag Picayune, MS Mar 2002–Feb 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 Feb 2002–Jun 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 Mar 2001–Feb 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, 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++ on UNIX.
- Provided support for libraries and scripts for the distributed build system.

Software Engineer, Micron Technology, Boise, ID, Jun 1999–Nov 2000

- Developed a manufacturing data communication system and internal middleware library using TCP/IP and UDP protocols in C/C++ for Unix/Windows.
- Developed and created database tables for Oracle and Sybase, in PL/SQL and Transact SQL.
- Assessed and planned requirements for application programming interfaces relating to SOAP and XML-based software.
- Developed regression test suites for a distributed middleware software application and utilities in C/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, Fort Lauderdale, FL; Master's of Computer Science graduate studies.

Links

- Home Site: <https://wilgil.me>
- LinkedIn: <https://www.linkedin.com/in/wfgilreath/>
- GitHub: <https://github.com/wgilreath>
- Web App: <https://get-star.org>
- Book Site: <https://www.caamp.info>

Publications

- "The Beginning of the Era of the Knowledge Navigator?," Dev.To Community, April 2026, https://dev.to/william_gilreath_16e7ae9c/the-beginning-of-the-era-of-the-knowledge-navigator-oj
- "CHARIBDIS Continuous Hash Algorithm Random Integral Binary Datum Infinite Series: A Secure Random Number Generator," General Science Journal, December 2025, <https://www.gsjournal.net/Science-Journals/Research%20Papers/View/10393>.
- "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>