Brent Monning

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Education

B.S. Computer Science   **09/2024 - expected 2028**
Southern Oregon University

High School Diploma   **09/2020 - 06/2024**
Ashland High School, Oregon

Projects & Experience

LiDAR Topography Research   **06/2024 - present**
Scanned over 156 square miles total of area in the state of Oregon, primarily Crater Lake, with a resolution of around 15,500 by 11,500 pixels per raster image. Converted rasters from ESRI GRID to GeoTIFF format for usage with Rasterio and NumPy. Trained a random forest model to classify terrain, and correlated detected watershed heights with elevation.

Robotics Programming Lead, FRC Team 3024   **10/2022 - 06/2024**
Promoted to lead programmer in 2023, overseeing a subteam of 5 students. Completed migration of legacy LabVIEW codebase to Java. Responsible for 85% of drivetrain code and autonomous routines, including the implementation of all 5 CAN motor subsystems. Mentored subteam to implement all vision pipelines, including object and AprilTag recognition.

GitBang   **09/2022 - 01/2023**
Created a graphical helper for Git using Flutter, supporting committing, reverting, and the management of submodules, branches, and existing commits. Implemented unique UI/UX using the guidelines of Material Design, and used Flutter states to track repository changes. Ported to all major platforms and packaged to Snap and Flatpak.

OSS Contributions on GitHub   **09/2021 - present**
Over 550 commits done as of July 2025, with 30 public repositories. Implemented screenshot functionality in the toolbar on IINA media player. Added support for the "xcodes" helper to the Topgrade CLI tool. Revitalized stack of visual robot software creator for the WPILib framework.

Languages

Proficient: Python, Java, Rust, Swift, Dart, C++, JavaScript, TypeScript
Familiar: Haskell, C, Clojure, Nim, Zig, Common Lisp, Go

Technologies

Proficient: Nix, Linux, Git, Flutter, NumPy, SwiftUI, Ollama, AWS, Pandas, Transformers
Familiar: React, Astro, Vite