William Sander

Computer Science Graduate (B.S. May 2026)

Software Engineering · Machine Learning · Production Experience

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Professional Summary

Computer Science graduate (B.S. May 2026), targeting Software Engineering and Machine Learning roles. Experience building production-grade automation and systems in real-world environments using Python, C, C++, and SQL, alongside applied machine learning projects. Approaches problems pragmatically while adopting new technologies.

Education

University of Vermont **Burlington, VT**
B.S. Computer Science *Expected May 2026*
Relevant Coursework: Advanced Machine Learning, Advanced Programming (C++), Algorithms (Java), Data Structures, Database Systems, Applied Probability & Statistics, Operating Systems (C), Computer Organization (Assembely)

Projects

AI Speech Emotion Recognition System **UVM, Advanced Machine Learning**
PyTorch | Python | Deep Learning | ML Evaluation | Flask ***Speech Emotion Recognition (CRNN) Repository — GitHub***

- Built a CRNN architecture (CNN + BiLSTM + Attention) achieving **81.29% accuracy / 83.63% F1** (4-class) and **76.76% accuracy / 82.80% F1** (6-class) across **8 multilingual datasets** (∼**25.8k samples**)
- Added **distance-weighted loss** using arousal–valence theory and multilingual training; compared performance against classical ML baselines (253-feature extraction, ensemble models)
- Built a modular data pipeline and interpretability tools (attention maps, Grad-CAM); deployed Flask-based real-time inference with **10–20ms latency** and coordinated team development on GitHub

C++ Canvas Raster Graphics Editor **UVM, Advanced Programming**
C++ | OpenGL | Command Pattern | Python C | NumPy | ImGui ***Video Demo - YouTube*** · ***Canvas Repository — GitHub***

- Built real time raster graphics engine app with **7 tools**, multi-layer RGBA buffers, and **diff-based undo/redo**; custom rasterization, per-pixel alpha compositing, and zero-copy buffer reuse keep total memory under **140 MB**
- Implemented a real-time OpenGL pipeline with **lazy CPU-to-GPU texture updates** and software blending, **60 FPS** at **800×600**; Gaussian/Sobel/unsharp filters via **Python C API + NumPy** with direct C++↔Python data conversion.

E-Ink iCloud Calendar Display
IoT | OOP | Python | CalDAV | Pillow | FreeCAD | Hardware ***E-Ink iCloud Calendar Display Repository — GitHub***

- Developed an IoT E-Ink display calendar product, integrating iCloud and public holiday API, merging ICS/JSON events
- Engineered a modular, object-oriented software architecture with custom layout engine with competitive materials cost.

Work Experience

IT Automation Engineer (Internal Tools) **Burlington, VT**
U.S. Census Bureau *Feb 2020 – Nov 2020*

- Designed and implemented internal software tools in a high-security federal environment using Python, C++, & SQL, eliminating hundreds of hours of manual processing
- Automated an emergent reconciliation process using Python & SQL, saving 30+ hours per week during the Census extension
- Resolved 1,100+ Remedy tickets and managed security for 3,000+ mobile devices, achieving an 85% first-call resolution rate
- Spearheaded debugging of a critical outage, deploying a system-wide fix to 3,000+ devices within an hour
- Interviewed, hired, and onboarded office and field staff; improved workflows by developing a device tracking program

Volunteer Tech Instructor **Burlington, VT**
Technology for Tomorrow *Oct 2016 – Jun 2018*

- Taught computer skills and provided technical support to community members, improving digital literacy and access

Skills

Languages: Python, C++, C, Java, R, SQL
Systems & Tools: Git, Docker, Linux, REST APIs
ML & Frameworks: PyTorch, scikit-learn, Flask