Adam McDaniel

PhD student and software developer at the University of Tennessee

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NOTABLE CREATIONS 🚀

• **Sage** — Custom Operating System + Compiled Language With Online Web-Playground

github.com/adam-mcdaniel/sage

Created a programming language and built a community for it. Used the programming language to create a user-space for my operating system, SageOS. Created a web playground for people to demo and experiment with the language on their phones and other devices.

• **Dune** — Portable Working Environment For Developers

github.com/adam-mcdaniel/dune

Implemented a portable shell with rich features. Built a community around the project with ~5000 installs. Dune runs on all major operating systems and on Android. Result: I use this tool daily to navigate Linux and Windows, and to write build scripts for my software.

EXPERIENCE 🌍

• **Oak Ridge National Laboratory,** Oak Ridge — *Graduate Research Intern*

JUNE 2024 - AUGUST 2024

Developed a highly accurate process monitoring system for anomaly detection in automated environments. Utilized auto-encoder machine learning models for detection and LLMs to diagnose the flagged anomalies.

• **University of Tennessee,** Knoxville — *Graduate Research*

MAY 2023 - PRESENT

Systems research under Dr. Michael Jantz. Profiling apps by examining physical memory at fixed intervals throughout runtime. Identifying programs with compressible memory to improve Linux's ZRAM module.

• **University of Tennessee,** Knoxville — *Graduate and Undergraduate Teaching Assistant*

AUGUST 2021 - PRESENT

Holding computer science classes for Data Structures and Algorithms I & II (202 & 302) and Software Engineering (340). Advising students on how to complete assignments and troubleshoot their programs during office hours. Grading student assignment submissions.

• **Oak Ridge National Laboratory,** Oak Ridge — *Undergraduate Research Intern*

MAY 2019 - AUGUST 2019

Developed Rusty-CI, a GitHub and GitLab continuous integration tool. Contributed to the ASGarD (Adaptive Sparse Grid Discretization) project, a partial differential equation solver for exascale architectures.

SKILLS AND ACHIEVEMENTS 🏆

Proficient in Rust, Python, C, C++, Java, JavaScript, Lisp, Haskell, RISC-V, LaTeX, Bash, and Git.

Daily Linux user.

Very experienced in low-level software.

Created 6 programming languages.

Professionally experienced with both GitHub and GitLab.

Created multiple 700+ star repositories on GitHub.

Proficient in Spanish (B2~C1 estimated).

EDUCATION 🎓

• **University of Tennessee,** Knoxville — *PhD Student*

MAY 2024 - PRESENT

Studying and performing research towards my PhD.

• **University of Tennessee,** Knoxville — *Masters of Computer Science*

JANUARY 2023 - MAY 2024

Graduated with a 3.90 GPA at 22 years old.

• **University of Tennessee,** Knoxville — *Bachelor of Computer Science*

AUGUST 2020 - DECEMBER 2022

Graduated with a 3.95 GPA (*Summa Cum Laude*) at 20 years old.