Résumé for **Erik Wilson**

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CAREER SUMMARY

Software Engineer with many years of experience working with teams of varying size, knowledge, and locality. Exposure to a wide variety of languages, architectures, operating systems, libraries, and supporting software, from national supercomputer systems to microprocessors. Specialize in researching and developing solutions for difficult problems in business and scientific software design. Always expanding breadth and depth of knowledge while seeking excellence in engineering.

SKILL SET SUMMARY

***Languages*:** Go, Python, Rust, C, C++, Lua, Javascript, Java, Perl, Shell
***Software*:** Kubernetes, Docker and ContainerD, Linux, MacOS, Windows, CI/CD

WORK EXPERIENCE

Software Engineer Tempe, AZ

HPE - Determined AI 2022 - 2024

- Backend development on Determined AI training platform using Go, as standalone service or utilizing Kubernetes or Slurm deployments.
- Go and Python development for Determined connected services performing Retrieval Augmented Generation and Large Language Model inference in Kubernetes clusters.

Red Canary 2022

- Main platform development for sensor analysis using Ruby, multi-arch migration of Kubernetes services to reduce operational costs.
- Linux EDR sensor development to inspect processes and network data in Rust utilizing eBPF, and development of connected Go telemetry services.

SUSE - Rancher 2018 - 2021

- Feature development and bug fix support for Rancher server, a platform for launching and management of custom Kubernetes distributions on cloud providers.
- Developer and maintainer for K3S, an open source and lightweight Kubernetes distribution with a focus on ease of use and edge capabilities.

Nextiva 2018

- Frontend development with React and Javascript, implementing design requirements for user identity and access management administration.
- Backend support with Python and Java, code reviews, debugging, and bug fixes.

Citrix - Octoblu Inc 2014 - 2017

- Assisted in the architecture and development of an Internet of Things platform.
- Frontend development with Angular and React, backend development using Docker with Javascript (Node.js, CoffeeScript, ES6). Device integration with a variety of languages, including: Node.js, Lua, Java, Groovy, and C++.

Iced Development 2012 - 2014

- Software engineering services for a global Advance Deposit Wagering platform. Use of RedHat Enterprise Linux, Apache, Tomcat, MySQL, MongoDB, Java, JavaScript, and Node.
- Development of essential services for product launch with integration of partner totalizer and deposit systems. Bottleneck and optimizations analysis and resolution post-launch.

***Software Engineer*, Boston University** Boston, MA

Center for Integrated Space Weather Modeling (CISM), Astronomy 2005 - 2013

- Port various models and scientific packages to other platforms (e.g. LLNL's A++P++, Overture, and PnMPI to AIX and Cray; IBM's OpenDX to OSX).
- Maintain core infrastructure of hardware and software.

John Lyon (LFM), Astronomy 2008 - 2013

- Performance analysis and optimizations of the Lyon-Fedder-Mobarry (LFM) magnetohydrodynamics model. Analysis requires performance reviews of the LFM model and associated libraries on various national supercomputer systems.
- Developed a C++ I/O library to utilize parallel file systems on supercomputer platforms, allowing unified access to HDF4 or HDF5 through a common API. Optional A++/P++ support allows for data super-domains.

Harlan Spence (NASA/LRO/CRaTER), Astronomy 2007 - 2010

- Creation of TCP/UDP socketed Perl server used to decompose, calibrate, and redistribute real-time network data from the Cosmic Ray Telescope for the Effects of Radiation (CRaTER) instrument on the Lunar Reconnaissance Orbiter (LRO).
- Refactor of C++ data pipeline used on raw data received from the Mission Operations Center to create calibrated multi-level scientific data sets for scientific analysis and inclusion in NASA's Planetary Data System archive.

Nathan Schwadron (EMMREM), Astronomy 2007 - 2009

- Developed a C++ I/O library for the Earth-Moon-Mars Radiation Environment Module (EMMREM), with user driver configuration and multi-processor snapshots of model simulation state, uses MPI and the NetCDF3 API.

David Coker Group, Chemistry Summer 2004

- Re-implementation of a FORTRAN 77 quantum monte carlo particle simulation to more compact and extensible modular Fortran 90 framework.

EDUCATION

Arizona State University Tempe, AZ
Masters of Computer Science Fall 2023 - Present
Estimated graduation Spring 2026
(MCS, HLC accredited) with certificates in Cybersecurity and AI & Machine Learning

Northern Arizona University Flagstaff, AZ
Baccalaureate of Science in Computer Science and Engineering 2000 - 2004
(BSCSE, ABET accredited) with minor in Linguistics

OTHER EXPERIENCE

Electronics

- Assisted in design and development of CactusCon electronic badges, and custom Eagle CAD ULP for importing vector graphics from InkScape. Programming for ESP8266 and ESP32 devices using C and Lua.
- Arduino and similar microprocessor C/C++ development; analysis of sensor input and stepper motor control.

Volunteer Experience

- Member of HeatSync Labs, a volunteer based maker community in Mesa, AZ.
- Event volunteerism, including HackPHX, NodeBots, DefCon, and CactusCon.

Github repository available at https://github.com/erikwilson.