Ben Hekster
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<http://www.hekster.org/Professional/>

# Summary

Principal Software Engineer with 20+ years in high-performance computing and team leadership delivering scalable and real-time analytics solutions. Excels in object-oriented design and analysis (OOA/OOD). Creative, hands-on, independent thinker. Team player, with great spoken and written communication and conflict resolution skills.

Seeking a challenging position in architecture/design, development, team leadership; in high-performance/low-latency computing.

# Skills

Programming languages: C++17, C99, Python, NodeJS

Cloud infrastructure: GCP, AWS; Kubernetes, MongoDB

# Professional Experience

February ’22 – current Relyance AI, San Francisco, CA

**Principal Software Engineer** of a cloud-native data privacy SaaS product in GCP and AWS, and led source code analysis team as Scrum Master:

* contributed to Python-based source code analysis for data privacy
* GCP monitoring/alerting for a cloud-native Kubernetes product
* refactored Docker microservice infrastructure to support SOA, reducing build sizes by 75%
* established a tailored Scrum cadence; reduced debilitating WIP backlog by 80%
* contributed to automated testing (Playwright; NodeJS)

September ’17 – January ‘22 FogHorn Systems, Sunnyvale, CA

As **Principal Staff Engineer** on an edge computing IIoT product:

* designed Python Streaming API, implemented in C++ 17, for real-time analytics, integrating TensorFlow, TFLite, TVM, and OpenVINO
* optimized stream processing, achieving 1000x speed increase and 90% memory reduction
* led local and remote teams using Scrum, driving hiring and performance reviews

May '13 – September '17 BlueKai (acquired by Oracle), Cupertino, CA

As **Principal Software Engineer**:

* architected C++11 graph database with transparent cluster rebalancing, with 290k/s ops at sub-ms latency, never crashing in production
* developed front end on nginx
* designed ‘ID space’ architecture which integrated efforts of other groups at the company
* pioneered Scrum and CI/CD, integrating QA into development workflows

March '09 – March '13 DigitalGlobe, Walnut Creek, CA (headquarters in Longmont, CO)

As **Senior Software Engineer**:

* led a development team as Scrum Master, coordinating satellite office operations with HQ
* architected high-volume geospatial image (GIS) processing system written in C++ and Java, and GPU-based image processing
* developed a Win32/Linux cross-platform GUI in C++ for viewing image strips

1994-2001 Held engineering and leadership roles at SS8 Networks (Milpitas), CaseCentral (San Francisco), Minds and Technologies (Palo Alto), ReleaseNow (San Carlos), BackWeb and Odyssey Interactive Multimedia (Israel), focusing on C++ and cross-platform development.

# Education

1986-1992 University of Twente, Netherlands

**MSEE** (cum laude) with additional Computer Science and additional Pure Mathematics components. Thesis in reflective object-based compiler architecture. Internships at Apple Computer, Macintosh System Software (Cupertino), and University of Oulu (Finland).

# Independent

Member of the Association for Computing Machinery (ACM). **Amateur Radio Technician Class** license.

Undergoing flight training for **Private Pilot** certificate (PP-ASEL); post-solo but pre-checkride.

**President** Darrow Farm Homeowners’ Association.

2020-*current* Designed embedded flight simulator radio panel USB device/X-Plane plug-in, and MIDI processor; targeting Nordic (ARM Cortex M4), STM32, and PIC18 platforms

2020, 2023 **Embedded** hardware and firmware design and implementation of **MIDI processor** on Nordic Semiconductor nRF52832. Reimplemented and final PCB using Microchip PIC18F2450.

2017-2019 Wrote solutions manuals for **mathematics textbooks *A First Course in Graph Theory* using Mathematica, and** *Differential Geometry* using LaTeX; and *Abstract Algebra*.